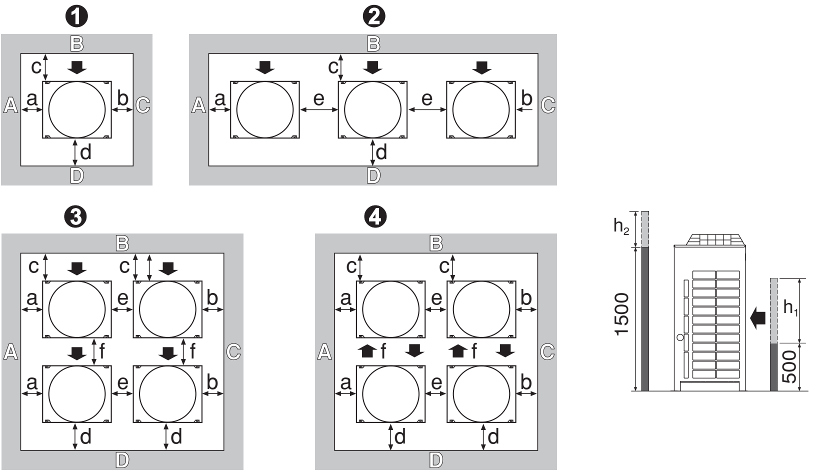
INSTALLATION MANUAL

Split system air conditioner

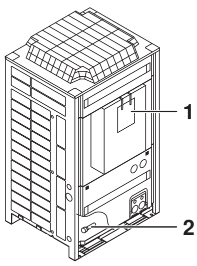
RZQ200C7Y1B
RZQ250C7Y1B



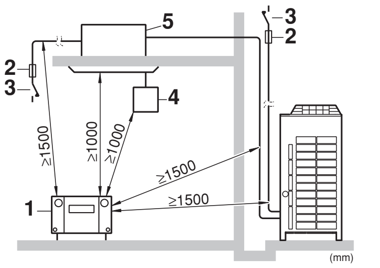
		①	②	③	④
A+B+C+D	I)*	c ≥300 mm a ≥10 mm b ≥10 mm d ≥500 mm			c ≥500 mm a ≥10 mm b ≥10 mm d ≥500 mm
			e ≥20 mm		
				f ≥600 mm	f ≥900 mm
	II)*	c ≥100 mm a ≥50 mm b ≥50 mm d ≥500 mm			c ≥500 mm a ≥50 mm b ≥50 mm d ≥500 mm
			e ≥100 mm		
				f ≥500 mm	f ≥600 mm
A+B	III)	a ≥200 mm c ≥300 mm			
			e ≥400 mm		

* H > 1500 mm ⇒ d ≥ d+(h_2/2)
h > 500 mm ⇒ c ≥ c+(h_1/2)

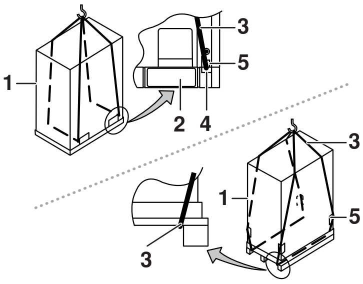
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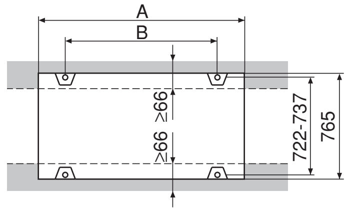
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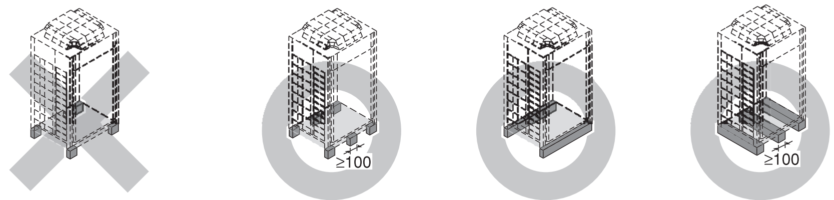
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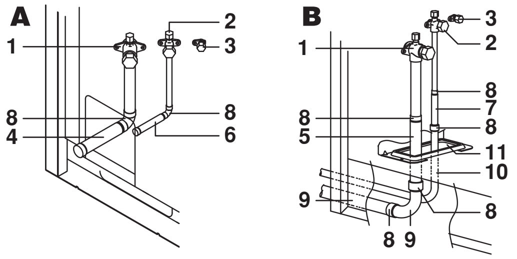
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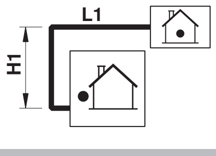
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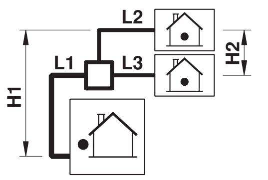
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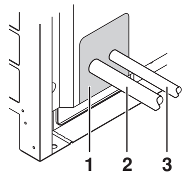
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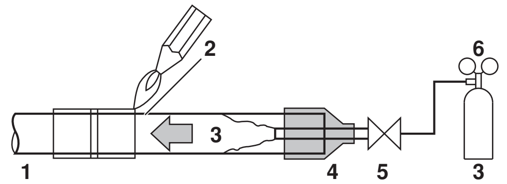
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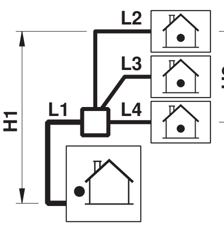
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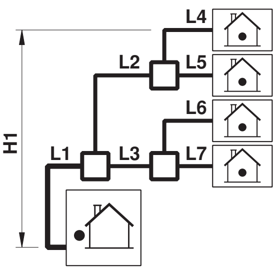
10



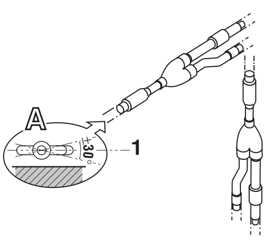
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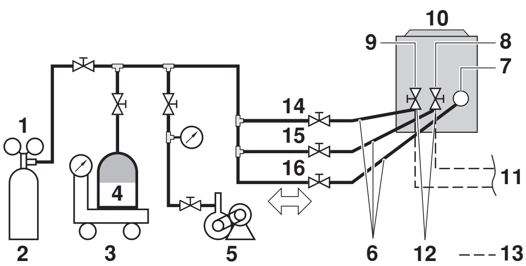
12



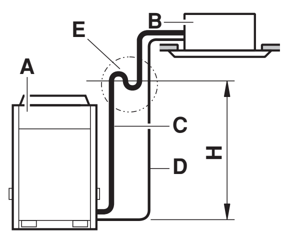
13



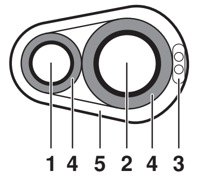
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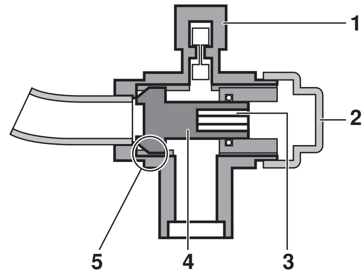
15



16



17



18

CE - DECLARATION-OF-CONFORMITY
CE - KONFORMITÄTSERKLÄRUNG
CE - DECLARATION-DE-CONFORMITE
CE - CONFORMITEITSVERKLARING
CE - DECLARACION-DE-CONFORMIDAD
CE - DICHIARAZIONE-DI-CONFORMITA
CE - ΔΗΛΩΣΗ ΣΥΜΜΟΡΦΩΣΗΣ
CE - DECLARAÇÃO-DE-CONFORMIDADE
CE - ЗАЯВЛЕНИЕ-О-СООТВЕТСТВИИ
CE - OPFYLDELSESERKLÆRING
CE - FÖRSÄKRAN-OM-ÖVERENSTÄMMELSE
CE - ERKLÆRING OM-SAMSVAR
CE - ILMOITUS-YHDENMUKAISUUDESTA
CE - PROHLÁŠENÍ-O-SHODĚ
CE - IZJAVA-O-USKLAĐENOSTI
CE - MEGFELELŐSÉGI-NYILATKOZAT
CE - DEKLARACJA-ZGODNOŚCI
CE - DECLARAŢIE-DE-CONFORMITATE
CE - IZJAVA O SKLADNOSTI
CE - VASTAVUSDEKLARATSIOON
CE - ДЕКЛАРАЦИЯ-ЗА-СЪОТВЕТСТВИЕ
CE - ATITIKTIES-DEKLARACIJA
CE - ATBILSTĪBAS-DEKLARĀCIJA
CE - VYHLÁSENIE-ZHODY
CE - UYUMLULUK-BİLDİRİSİ

Daikin Europe N.V.

01 (GB) declares under its sole responsibility that the air conditioning models to which this declaration relates:
02 (D) erklärt auf seine alleinige Verantwortung daß die Modelle der Klimageräte für die diese Erklärung bestimmt ist:
03 (F) déclare sous sa seule responsabilité que les appareils d'air conditionné visés par la présente déclaration:
04 (NL) verklaart hierbij op eigen exclusieve verantwoordelijkheid dat de airconditioning units waarop deze verklaring betrekking heeft:
05 (E) declara baja su única responsabilidad que los modelos de aire acondicionado a los cuales hace referencia la declaración:
06 (I) dichiara sotto sua responsabilità che i condizionatori modello a cui è riferita questa dichiarazione:
07 (GR) δηλώνει με αποκλειστική της ευθύνη ότι τα μοντέλα των κλιματιστικών συσκευών στα οποία αναφέρεται η παρούσα δήλωση:
08 (P) declara sob sua exclusiva responsabilidade que os modelos de ar condicionado a que esta declaração se refere:
09 (RUS) заявляет, исключительно под свою ответственность, что модели кондиционеров воздуха, к которым относится настоящее заявление:
10 (DK) erklærer under eneansvar, at klimaanlægmodellerne, som denne deklaration vedrører:
11 (S) deklarerar i egenskap av huvudansvarig, att luftkonditioneringsmodellerna som berörs av denna deklaration innebär att:
12 (N) erklærer et fullstendig ansvar for at de luftkondisjoneringsmodeller som berøres av denne deklarasjon innebærer at:
13 (FIN) ilmoittaa yksinomaan omalla vastuullaan, että tämän ilmoituksen tarkoittamat ilmastointilaitteiden mallit:
14 (CZ) prohlašuje ve své plné odpovědnosti, že modely klimatizace, k nimž se toto prohlášení vztahuje:
15 (HR) izjavljuje pod isključivo vlastitom odgovornošću da su modeli klima uređaja na koje se ova izjava odnosi:
16 (H) teljes felelőssége tudatában kijelenti, hogy a klímaberendezés modellek, melyekre e nyilatkozat vonatkozik:
17 (PL) deklaruje na własną i wyłączną odpowiedzialność, że modele klimatyzatorów, których dotyczy niniejsza deklaracja:
18 (RO) declară pe proprie răspundere că aparatele de aer condiţionat la care se referă această declaraţie:
19 (SLO) z vso odgovornostjo izjavlja, da so modeli klimatskih naprav, na katere se izjava nanaša:
20 (EST) kinnitab oma täielikul vastutusel, et käesoleva deklaratsiooni alla kuuluvad kliimaseadmete mudelid:
21 (BG) декларира на своя отговорност, че моделите климатична инсталация, за които се отнася тази декларация:
22 (LT) visiška savo atsakomybe skelbia, kad oro kondicionavimo prietaisų modeliai, kuriems yra taikoma ši deklaracija:
23 (LV) ar pilnu atbildību apliecina, ka tālāk uzskaitīto modeļu gaisa kondicionētāji, uz kuriem attiecas šī deklarācija:
24 (SK) vyhlasuje na vlastnú zodpovednosť, že tieto klimatizačné modely, na ktoré sa vzťahuje toto vyhlásenie:
25 (TR) tamamen kendi sorumluluğunda olmak üzere bu bildirinin ilgili olduğu klima modellerinin aşağıdaki gibi olduğunu beyan eder:

RZQ200C7Y1B*, RZQ250C7Y1B*,
* = , , 1, 2, 3, ..., 9

01 are in conformity with the following standard(s) or other normative document(s), provided that these are used in accordance with our instructions:
02 der/den folgenden Norm(en) oder einem anderen Normdokument oder -dokumenten entspricht/entsprechen, unter der Voraussetzung, daß sie gemäß unseren Anweisungen eingesetzt werden:
03 sont conformes à la/aux norme(s) ou autre(s) document(s) normatif(s), pour autant qu'ils soient utilisés conformément à nos instructions:
04 conform de volgende norm(en) of één of meer andere bindende documenten zijn, op voorwaarde dat ze worden gebruikt overeenkomstig onze instructies:
05 están en conformidad con la(s) siguiente(s) norma(s) u otro(s) documento(s) normativo(s), siempre que sean utilizados de acuerdo con nuestras instrucciones:
06 sono conformi al(i) seguente(i) standard(s) o altro(i) documento(i) a carattere normativo, a patto che vengano usati in conformità alle nostre istruzioni:
07 είναι σύμφωνα με το(α) ακόλουθο(α) πρότυπο(α) ή άλλο έγγραφο(α) κανονισμών, υπό την προϋπόθεση ότι χρησιμοποιούνται σύμφωνα με τις οδηγίες μας:
08 estão em conformidade com a(s) seguinte(s) norma(s) ou outro(s) documento(s) normativo(s), desde que estes sejam utilizados de acordo com as nossas instruções:
09 соответствуют следующим стандартам или другим нормативным документам, при условии их использования согласно нашим инструкциям:
10 overholder følgende standard(er) eller andet/andre retningsgivende dokument(er), forudsat at disse anvendes i henhold til vore instrukser:
11 respektive utrustning är utförd i överensstämmelse med och följer följande standard(er) eller andra normgivande dokument, under förutsättning att användning sker i överensstämmelse med våra instruktioner:
12 respektive utstyr er i overensstemmelse med følgende standard(er) eller andre normgivende dokument(er), under forutssetning av at disse brukes i henhold til våre instrukser:
13 vastaavat seuraavien standardien ja muiden ohjeellisten dokumenttien vaatimuksia edellyttäen, että niitä käytetään ohjeidemme mukaisesti:
14 za předpokladu, že jsou využívány v souladu s našimi pokyny, odpovídají následujícím normám nebo normativním dokumentům:
15 u skladu sa slijedećim standardom(ima) ili drugim normativnim dokumentom(ima), uz uvjet da se oni koriste u skladu s našim uputama:
16 megfelelnek az alábbi szabvány(ok)nak vagy egyéb irányadó dokumentum(ok)nak, ha azokat előírás szerint használják:
17 spełniają wymogi następujących norm i innych dokumentów normalizacyjnych, pod warunkiem że używane są zgodnie z naszymi instrukcjami:
18 sunt în conformitate cu următorul (următoarele) standard(e) sau alt(e) document(e) normativ(e), cu condiţia ca acestea să fie utilizate în conformitate cu instrucţiunile noastre:
19 skladni z naslednjimi standardi in drugimi normativi, pod pogojem, da se uporabljajo v skladu z našimi navodili:
20 on vastavuses järgmis(t)e standardi(te)ga või teiste normatiivsete dokumentidega, kui neid kasutatakse vastavalt meie juhenditele:
21 съответстват на следните стандарти или други нормативни документи, при условие, че се използват съгласно нашите инструкции:
22 atitinka žemiau nurodytus standartus ir (arba) kitus norminius dokumentus su sąlyga, kad yra naudojami pagal mūsų nurodymus:
23 tad, ja lietoti atbilstoši ražotāja norādījumiem, atbilst sekojošiem standartiem un citiem normatīviem dokumentiem:
24 sú v zhode s nasledovnou(ými) normou(ami) alebo iným(i) normatívnym(i) dokumentom(ami), za predpokladu, že sa používajú v súlade s našim návodom:
25 ürünün, talimatlarımıza göre kullanılması koşuluyla aşağıdaki standartlar ve norm belirten belgelerle uyumludur:

EN60335-2-40,

01 following the provisions of:
02 gemäß den Vorschriften der:
03 conformément aux stipulations des:
04 overeenkomstig de bepalingen van:
05 siguiendo las disposiciones de:
06 secondo le prescrizioni per:
07 με τήρηση των διατάξεων των:
08 de acordo com o previsto em:
09 в соответствии с положениями:
10 under iagttagelse af bestemmelserne i:
11 enligt villkoren i:
12 gitt i henhold til bestemmelsene i:
13 noudattaen määräyksiä:
14 za dodržení ustanovení předpisu:
15 prema odredbama:
16 követi a(z):
17 zgodnie z postanowieniami Dyrektyw:
18 în urma prevederilor:
19 ob upoštevanju določb:
20 vastavalt nõuetele:
21 следвайки клаузите на:
22 laikantis nuostatų, pateikiamų:
23 ievērojot prasības, kas noteiktas:
24 održiavajúc ustanovenia:
25 bunun koşullarına uygun olarak:

Machinery 2006/42/EC ***
Electromagnetic Compatibility 2004/108/EC *
Pressure Equipment 97/23/EC **

01 Directives, as amended.
02 Direktiven, gemäß Änderung.
03 Directives, telles que modifiées.
04 Richtlijnen, zoals geamendeerd.
05 Directivas, según lo enmendado.
06 Direttive, come da modifica.
07 Οδηγιών, όπως έχουν τροποποιηθεί.
08 Directivas, conforme alteração em.
09 Директив со всеми поправками.
10 Direktiver, med senere ændringer.
11 Direktiv, med företagna ändringar.
12 Direktiver, med foretatte endringer.
13 Direktiivejä, sellaisina kuin ne ovat muutettuina.
14 v platném znění.
15 Smjernice, kako je izmijenjeno.
16 irányelv(ek) és módosításaik rendelkezéseit.
17 z późniejszymi poprawkami.
18 Directivelor, cu amendamentele respective.
19 Direktive z vsemi spremembami.
20 Direktiivid koos muudatustega.
21 Директиви, с техните изменения.
22 Direktyvose su papildymais.
23 Direktīvās un to papildinājumos.
24 Smernice, v platnom znení.
25 Değiştirilmiş halleriyle Yönetmelikler.

01 *as set out in **<A>** and judged positively by **<B>** according to the **Certificate <C>**.
as set out in the Technical Construction File **<D> and judged positively by **<E>** (Applied module **<F>**). **<G>**. Risk category **<H>**. Also refer to next page.
02 *wie in der **<A>** aufgeführt und von **<B>** positiv beurteilt gemäß **Zertifikat <C>**.
wie in der Technischen Konstruktionsakte **<D> aufgeführt und von **<E>** (Angewandtes Modul **<F>**) positiv ausgezeichnet gemäß. **<G>**. Risikoart **<H>**. Siehe auch nächste Seite.
03 *tel que défini dans **<A>** et évalué positivement par **<B>** conformément au **Certificat <C>**.
tel que stipulé dans le Fichier de Construction Technique **<D> et jugé positivement par **<E>** (Module appliqué **<F>**). **<G>**. Catégorie de risque **<H>**. Se reporter également à la page suivante.
04 *zoals vermeld in **<A>** en positief beoordeeld door **<B>** overeenkomstig **Certificaat <C>**.
zoals vermeld in het Technisch Constructiedossier **<D> en in orde bevonden door **<E>** (Toegepaste module **<F>**). **<G>**. Risicocategorie **<H>**. Zie ook de volgende pagina.
05 *como se establece en **<A>** y es valorado positivamente por **<B>** de acuerdo con el **Certificado <C>**.
tal como se expone en el Archivo de Construcción Técnica **<D> y juzgado positivamente por **<E>** (Modulo aplicado **<F>**). **<G>**. Categoría de riesgo **<H>**. Consulte también la siguiente página.
06 *delineato nel **<A>** e giudicato positivamente da **<B>** secondo il **Certificato <C>**.
delineato nel File Tecnico di Costruzione **<D> e giudicato positivamente da **<E>** (Modulo **<F>** applicato). **<G>**. Categoria di rischio **<H>**. Fare riferimento anche alla pagina successiva.
07 *όπως καθορίζεται στο **<A>** και κρίνεται θετικά από το **<B>** σύμφωνα με το **Πιστοποιητικό <C>**.
όπως προσδιορίζεται στο Αρχείο Τεχνικής Κατασκευής **<D> και κρίνεται θετικά από το **<E>** (Χρησιμοποιούμενη υπομονάδα **<F>**). **<G>**. Κατηγορία επικινδυνότητας **<H>**. Ανατρέξτε επίσης στην επόμενη σελίδα.
08 *tal como estabelecido em **<A>** e com o parecer positivo de **<B>** de acordo com o **Certificado <C>**.
tal como estabelecido no Ficheiro Técnico de Construção **<D> e com o parecer positivo de **<E>** (Módulo aplicado **<F>**). **<G>**. Categoria de risco **<H>**. Consultar também a página seguinte.
09 *как указано в **<A>** и в соответствии с положительным решением **<B>** согласно **Свидетельству** <C>.
как указано в Досье технического толкования **<D> и в соответствии с положительным решением **<E>** (Прикладной модуль **<F>**). **<G>**. Категория риска **<H>**. Также смотрите следующую страницу.
10 *som anført i **<A>** og positivt vurderet af **<B>** i henhold til **Certifikat <C>**.
som anført i den Tekniske Konstruktionsfil **<D> og positivt vurderet af **<E>** (Anvendt modul **<F>**). **<G>**. Risikoklasse **<H>**. Se også næste side.
11 *enligt **<A>** och godkänts av **<B>** enligt **Certifikatet <C>**.
i i enlighet med den Tekniska Konstruktionsfilen **<D> som positivt intygats av **<E>** (Fastsatt modul **<F>**). **<G>**. Riskkategori **<H>**. Se även nästa sida.
12 *som det fremkommer i **<A>** og gjennom positiv bedømmelse av **<B>** ifølge **Sertifikat <C>**.
som det fremkommer i den Tekniske Konstruksjonsfilen **<D> og gjennom positiv bedømmelse av **<E>** (Anvendt modul **<F>**). **<G>**. Risikokategori **<H>**. Se også neste side.
13 *jotka on esitetty asiakirjassa **<A>** ja jotka **<B>** on hyväksynyt **Sertifikaatin <C>** mukaisesti.
jotka on esitetty Teknisessä Asiakirjassa **<D> ja jotka **<E>** on hyväksynyt (Sovellettu moduli **<F>**). **<G>**. Vaaraluokka **<H>**. Katso myös seuraava sivu.
14 *jak bylo uvedeno v **<A>** a pozitivně zjištěno **<B>** v souladu s **osvědčením <C>**.
jak bylo uvedeno v souboru technické konstrukce **<D> a pozitivně zjištěno **<E>** (použitý modul **<F>**). **<G>**. Kategorie rizik **<H>**. Viz také následující strana.
15 *kako je izloženo u **<A>** i pozitivno ocijenjeno od strane **<B>** prema **Certifikatu <C>**.
kako je izloženo u Datoteci o tehničkoj konstrukciji **<D> i pozitivno ocijenjeno od strane **<E>** (Primijenjen modul **<F>**). **<G>**. Kategorija opasnosti **<H>**. Također pogledajte na slijedećoj stranici.
16 *a(z) **<A>** alapján, a(z) **<B>** igazolta a megfelelést, a(z) **<C> tanúsítvány** szerint.
a(z) **<D> műszaki konstrukciós dokumentáció alapján, a(z) **<E>** igazolta a megfelelést (alkalmazott modul: **<F>**). **<G>**. Veszélyességi kategória **<H>**. Lásd még a következő oldalon.
17 *zgodnie z dokumentacją **<A>**, pozytywną opinią **<B>** i **Świadectwem <C>**.
zgodnie z archiwalną dokumentacją konstrukcyjną **<D> i pozytywną opinią **<E>** (Zastosowany moduł **<F>**). **<G>**. Kategoria zagrożenia **<H>**. Patrz także następna strona.
18 *aşa cum este stabilit în **<A>** şi apreciat pozitiv de **<B>** în conformitate cu **Certificatul <C>**.
conform celor stabilite în Dosarul tehnic de construcţie **<D> şi apreciate pozitiv de **<E>** (Modul aplicat **<F>**). **<G>**. Categorie de risc **<H>**. Consultaţi de asemenea pagina următoare.
19 *kot je določeno v **<A>** in odobreno s strani **<B>** v skladu s **certifikatom <C>**.
kot je določeno v tehnični mapi **<D> in odobreno s strani **<E>** (Uporabljen modul **<F>**). **<G>**. Kategorija tveganja **<H>**. Glejte tudi na naslednji strani.
20 *nagu on näidatud dokumendis **<A>** ja heaks kiidetud **<B>** järgi vastavalt **sertifikaadile <C>**.
nagu on näidatud tehnilises dokumentatsioonis **<D> ja heaks kiidetud **<E>** järgi (lisamoodul **<F>**). **<G>**. Riskikategooria **<H>**. Vaadake ka järgmist lehekülge.
21 *както е изложено в **<A>** и оценено положително от **<B>** съгласно **Сертификата** <C>.
както е заложено в Акта за техническа конструкция **<D> и оценено положително от **<E>** (Приложен модул **<F>**). **<G>**. Категория риск **<H>**. Вижте също на следващата страница.
22 *kaip nustatyta **<A>** ir kaip teigiamai nuspręsta **<B>** pagal **Sertifikatą <C>**.
kaip nurodyta Techninėje konstrukcijos byloje **<D> ir patvirtinta **<E>** (taikomas modulis **<F>**). **<G>**. Rizikos kategorija **<H>**. Taip pat žiūrėkite ir kitą puslapį.
23 *kkā norādīts **<A>** un atbilstoši **<B>** pozitīvajam vērtējumam saskaņā ar **sertifikātu <C>**.
kā noteikts tehniskajā dokumentācijā **<D>, atbilstoši **<E>** pozitīvajam lēmumam (piekritīgā sadaļa: **<F>**). **<G>**. Riska kategorija **<H>**. Skat. arī nākošo lappusi.
24 *ako bolo uvedené v **<A>** a pozitívne zistené **<B>** v súlade s **osvedčením <C>**.
ako je to stanovené v Súbore technickej konštrukcie **<D> a kladne posúdené **<E>** (Aplikovaný modul **<F>**). **<G>**. Kategória nebezpečia **<H>**. Viď tiež nasledovnú stranu.
25 ***<A>**'da belirtildiği gibi ve **<C> Sertifikasına** göre **<B>** tarafından olumlu olarak değerlendirildiği gibi.
****<D>** Teknik Yapı Dosyasında belirtildiği gibi ve **<E>** tarafından olumlu olarak (Uygulanan modül **<F>**) değerlendirilmiştir. **<G>**. Risk kategorisi **<H>**. Ayrıca bir sonraki sayfaya bakın.

<A>	DAIKIN.TCF.021D1/07-2007
<B>	KEMA
<C>	2024351-QUA/EMC02-4565
<D>	Daikin.TCFP.001
<E>	AIB Vinçotte (NB0026)
<F>	D1
<G>	.
<H>	II

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CE - ERKLÆRING OM-SAMSVAR
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CE - PROHLÁŠENÍ-O-SHODĚ
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CE - VASTAVUSDEKLARATSIOON
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CE - ATITIKTIES-DEKLARACIJA
CE - ATBILSTĪBAS-DEKLARĀCIJA
CE - VYHLÁSENIE-ZHODY
CE - UYUMLULUK-BİLDİRİSİ

01 (GB) continuation of previous page:
02 (D) Fortsetzung der vorherigen Seite:
03 (F) suite de la page précédente:
04 (NL) vervolg van vorige pagina:
05 (E) continuación de la página anterior:
06 (I) continua dalla pagina precedente:
07 (GR) συνέχεια από την προηγούμενη σελίδα:
08 (P) continuação da página anterior:
09 (RUS) продолжение предыдущей страницы:
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13 (FIN) jatkoa edelliseltä sivulta:
14 (CZ) pokračování z předchozí strany:
15 (HR) nastavak s prethodne stranice:
16 (H) folytatás az előző oldalról:
17 (PL) ciąg dalszy z poprzedniej strony:
18 (RO) continuarea paginii anterioare:
19 (SLO) nadaljevanje s prejšnje strani:
20 (EST) eelmise lehekülje järg:
21 (BG) продължение от предходната страница:
22 (LT) ankstesnio puslapio tęsinys:
23 (LV) iepriekšējās lappuses turpinājums:
24 (SK) pokračovanie z predchádzajúcej strany:
25 (TR) önceki sayfadan devam

01 Design Specifications of the models to which this declaration relates:
02 Konstruktionsdaten der Modelle auf die sich diese Erklärung bezieht:
03 Spécifications de conception des modèles auxquels se rapporte cette déclaration:
04 Ontwerpspecificaties van de modellen waarop deze verklaring betrekking heeft:
05 Especificaciones de diseño de los modelos a los cuales hace referencia esta declaración:
06 Specifiche di progetto dei modelli cui fa riferimento la presente dichiarazione:
07 Προδιαγραφές Σχεδιασμού των μοντέλων με τα οποία σχετίζεται η δήλωση:
08 Especificações de projecto dos modelos a que se aplica esta declaração:
09 Проектные характеристики моделей, к которым относится настоящее заявление:
10 Typespecifikationer for de modeller, som denne erklæring vedrører:
11 Designspecifikationer för de modeller som denna deklaration gäller:
12 Konstruksjonsspesifikasjoner for de modeller som berøres av denne deklarasjonen:
13 Tätä ilmoitusta koskevien mallien rakennemäärittely:
14 Specifikace designu modelů, ke kterým se vztahuje toto prohlášení:
15 Specifikacije dizajna za modele na koje se ova izjava odnosi:
16 A jelen nyilatkozat tárgyát képező modellek tervezési jellemzői:
17 Specyfikacje konstrukcyjne modeli, których dotyczy deklaracja:
18 Specificaţiile de proiectare ale modelelor la care se referă această declaraţie:
19 Specifikacije tehničnega načrta za modele, na katere se nanaša ta deklaracija:
20 Deklaratsiooni alla kuuluvate mudelite disainispetsifikatsioonid:
21 Проектни спецификации на моделите, за които се отнася декларацията:
22 Konstrukcinės specifikacijos modelių, kurie susiję su šia deklaracija:
23 To modeļu dizaina specifikācijas, uz kurām attiecas šī deklarācija:
24 Konštrukčné špecifikácie modelu, ktorého sa týka toto vyhlásenie:
25 Bu bildirinin ilgili olduğu modellerin Tasarım Özellikleri:

01
- Maximum allowable pressure (PS): **<K>** (bar)
- Minimum/maximum allowable temperature (TS*):
  - *TSmin: Minimum temperature at low pressure side: **<L>** (°C)
  - *TSmax: Saturated temperature corresponding with the maximum allowable pressure (PS): **<M>** (°C)
- Refrigerant: **<N>**
- Setting of pressure safety device: **<P>** (bar)
- Manufacturing number and manufacturing year: refer to model nameplate

02
- Maximal zulässiger Druck (PS): **<K>** (Bar)
- Minimal/maximal zulässige Temperatur (TS*):
  - *TSmin: Mindesttemperatur auf der Niederdruckseite: **<L>** (°C)
  - *TSmax: Sättigungstemperatur die dem maximal zulässigen Druck (PS) entspricht: **<M>** (°C)
- Kältemittel: **<N>**
- Einstellung der Druck-Schutzvorrichtung: **<P>** (Bar)
- Herstellungsnummer und Herstellungsjahr: siehe Typenschild des Modells

03
- Pression maximale admise (PS): **<K>** (bar)
- Température minimum/maximum admise (TS*):
  - *TSmin: température minimum côté basse pression: **<L>** (°C)
  - *TSmax: température saturée correspondant à la pression maximale admise: **<M>** (°C)
- Réfrigérant: **<N>**
- Réglage du dispositif de sécurité de pression: **<P>** (bar)
- Numéro de fabrication et année de fabrication: se reporter à la plaquette signalétique du modèle

04
- Maximaal toelaatbare druk (PS): **<K>** (bar)
- Minimaal/maximaal toelaatbare temperatuur (TS*):
  - *TSmin: Minimumtemperatuur aan lagedrukzijde: **<L>** (°C)
  - *TSmax: Verzadigde temperatuur die overeenstemt met de maximaal toelaatbare druk (PS): **<M>** (°C)
- Koelmiddel: **<N>**
- Instelling van drukbeveiliging: **<P>** (bar)
- Fabricagenummer en fabricagejaar: zie naamplaat model

05
- Presión máxima admisible (PS): **<K>** (bar)
- Temperatura mínima/máxima admisible (TS*):
  - *TSmin: Temperatura mínima en el lado de baja presión: **<L>** (°C)
  - *TSmax: Temperatura saturada correspondiente a la presión máxima admisible: **<M>** (°C)
- Refrigerante: **<N>**
- Ajuste del presostato de seguridad: **<P>** (bar)
- Número de fabricación y año de fabricación: consulte la placa de especificaciones técnicas del modelo

06
- Pressione massima consentita (PS): **<K>** (bar)
- Temperatura minima/massima consentita (TS*):
  - *TSmin: temperatura minima nel lato di bassa pressione: **<L>** (°C)
  - *TSmax: temperatura satura corrispondente alla pressione massima consentita (PS): **<M>** (°C)
- Refrigerante: **<N>**
- Impostazione del dispositivo di controllo della pressione: **<P>** (bar)
- Numero di serie e anno di produzione: fare riferimento alla targhetta del modello

07
- Μέγιστη επιτρεπόμενη πίεση (PS): **<K>** (bar)
- Ελάχιστη/μέγιστη επιτρεπόμενη θερμοκρασία (TS*):
  - *TSmin: Ελάχιστη θερμοκρασία για την πλευρά χαμηλής πίεσης: **<L>** (°C)
  - *TSmax: Κορεσμένη θερμοκρασία που αντιστοιχεί με τη μέγιστη επιτρεπόμενη πίεση (PS): **<M>** (°C)
- Ψυκτικό: **<N>**
- Ρύθμιση της διάταξης ασφάλειας πίεσης: **<P>** (bar)
- Αριθμός κατασκευής και έτος κατασκευής: ανατρέξτε στην πινακίδα αναγνώρισης του μοντέλου

08
- Pressão máxima permitida (PS): **<K>** (bar)
- Temperaturas mínima e máxima permitidas (TS*):
  - *TSmin: Temperatura mínima em baixa pressão: **<L>** (°C)
  - *TSmax: Temperatura de saturação correspondente à pressão máxima permitida (PS): **<M>** (°C)
- Refrigerante: **<N>**
- Regulação do dispositivo de segurança da pressão: **<P>** (bar)
- Número e ano de fabrico: consultar a placa de especificações da unidade

09
- Максимально допустимое давление (PS): **<K>** (бар)
- Минимально/максимально допустимая температура (TS*):
  - *TSmin: Минимальная температура на стороне низкого давления: **<L>** (°C)
  - *TSmax: Температура кипения, соответствующая максимально допустимому давлению (PS): **<M>** (°C)
- Хладагент: **<N>**
- Настройка устройства защиты по давлению: **<P>** (бар)
- Заводской номер и год изготовления: смотрите паспортную табличку модели

10
- Maks. tilladt tryk (PS): **<K>** (bar)
- Min./maks. tilladte temperatur (TS*):
  - *TSmin: Min. temperatur på lavtrykssiden: **<L>** (°C)
  - *TSmax: Mættet temperatur svarende til maks. tilladte tryk (PS): **<M>** (°C)
- Kølemiddel: **<N>**
- Indstilling af tryksikringsudstyr: **<P>** (bar)
- Produktionsnummer og fremstillingsår: se modellens fabriksskilt

11
- Maximalt tillåtet tryck (PS): **<K>** (bar)
- Min/max tillåten temperatur (TS*):
  - *TSmin: Minimumtemperatur på lågtryckssidan: **<L>** (°C)
  - *TSmax: Mättnadstemperatur som motsvarar maximalt tillåtet tryck (PS): **<M>** (°C)
- Köldmedel: **<N>**
- Inställning för trycksäkerhetsenhet: **<P>** (bar)
- Tillverkningsnummer och tillverkningsår: se modellens namnplåt

12
- Maksimalt tillatt trykk (PS): **<K>** (bar)
- Minimalt/maksimalt tillatt temperatur (TS*):
  - *TSmin: Minimumstemperatur på lavtrykkssiden: **<L>** (°C)
  - *TSmax: Metningstemperatur i samsvar med maksimalt tillatt trykk (PS): **<M>** (°C)
- Kjølemedium: **<N>**
- Innstilling av sikkerhetsanordning for trykk: **<P>** (bar)
- Produksjonsnummer og produksjonsår: se modellens merkeplate

13
- Suurin sallittu paine (PS): **<K>** (bar)
- Pienin/suurin sallittu lämpötila (TS*):
  - *TSmin: Alhaisin matalapainepuolen lämpötila: **<L>** (°C)
  - *TSmax: Suurinta sallittua painetta (PS) vastaava kyllästyslämpötila: **<M>** (°C)
- Kylmäaine: **<N>**
- Varmuuspainelaitteen asetus: **<P>** (bar)
- Valmistusnumero ja valmistusvuosi: katso mallin nimikilpi

14
- Maximální přípustný tlak (PS): **<K>** (bar)
- Minimální/maximální přípustná teplota (TS*):
  - *TSmin: Minimální teplota na nízkotlaké straně: **<L>** (°C)
  - *TSmax: Saturovaná teplota odpovídající maximálnímu přípustnému tlaku (PS): **<M>** (°C)
- Chladivo: **<N>**
- Nastavení bezpečnostního tlakového zařízení: **<P>** (bar)
- Výrobní číslo a rok výroby: viz typový štítek modelu

15
- Najveći dopušten tlak (PS): **<K>** (bar)
- Najniža/najviša dopuštena temperatura (TS*):
  - *TSmin: Najniža temperatura u području niskog tlaka: **<L>** (°C)
  - *TSmax: Standardna temperatura koja odgovara najvećem dopuštenom tlaku (PS): **<M>** (°C)
- Rashladno sredstvo: **<N>**
- Postavke sigurnosne naprave za tlak: **<P>** (bar)
- Proizvodni broj i godina proizvodnje: pogledajte natpisnu pločicu modela

16
- Legnagyobb megengedhető nyomás (PS): **<K>** (bar)
- Legkisebb/legnagyobb megengedhető hőmérséklet (TS*):
  - *TSmin: Legkisebb megengedhető hőmérséklet a kis nyomású oldalon: **<L>** (°C)
  - *TSmax: A legnagyobb megengedhető nyomásnak (PS) megfelelő telítettségi hőmérséklet (PS): **<M>** (°C)
- Hűtőközeg: **<N>**
- A túlnyomás-kapcsoló beállítása: **<P>** (bar)
- Gyártási szám és gyártási év: lásd a berendezés adattábláján

17
- Maksymalne dopuszczalne ciśnienie (PS): **<K>** (bar)
- Minimalna/maksymalna dopuszczalna temperatura (TS*):
  - *TSmin: Minimalna temperatura po stronie niskociśnieniowej: **<L>** (°C)
  - *TSmax: Temperatura nasycenia odpowiadająca maksymalnemu dopuszczalnemu ciśnieniu (PS): **<M>** (°C)
- Czynnik chłodniczy: **<N>**
- Nastawa ciśnieniowego urządzenia bezpieczeństwa: **<P>** (bar)
- Numer fabryczny oraz rok produkcji: patrz tabliczka znamionowa modelu

18
- Presiune maximă admisibilă (PS): **<K>** (bar)
- Temperatură minimă/maximă admisibilă (TS*):
  - *TSmin: Temperatură minimă pe partea de presiune joasă: **<L>** (°C)
  - *TSmax: Temperatura de saturaţie corespunzând presiunii maxime admisibile (PS): **<M>** (°C)
- Agent frigorific: **<N>**
- Reglarea dispozitivului de siguranţă pentru presiune: **<P>** (bar)
- Numărul de fabricaţie şi anul de fabricaţie: consultaţi placa de identificare a modelului

19
- Maksimalni dovoljeni tlak (PS): **<K>** (bar)
- Minimalna/maksimalna dovoljena temperatura (TS*):
  - *TSmin: Minimalna temperatura na nizkotlačni strani: **<L>** (°C)
  - *TSmax: Nasičena temperatura, ki ustreza maksimalnemu dovoljenemu tlaku (PS): **<M>** (°C)
- Hladivo: **<N>**
- Nastavljanje varnostne naprave za tlak: **<P>** (bar)
- Tovarniška številka in leto proizvodnje: glejte napisno ploščico

20
- Maksimaalne lubatud surve (PS): **<K>** (bar)
- Minimaalne/maksimaalne lubatud temperatuur (TS*):
  - *TSmin: Minimaalne temperatuur madalsurve küljel: **<L>** (°C)
  - *TSmax: Maksimaalsele lubatud survele (PS) vastav küllastunud temperatuur (PS): **<M>** (°C)
- Jahutusaine: **<N>**
- Surve turvaseadme seadistus: **<P>** (bar)
- Tootmisnumber ja tootmisaasta: vaadake mudeli andmeplaati

21
- Максимално допустимо налягане (PS): **<K>** (bar)
- Минимално/максимално допустима температура (TS*):
  - *TSmin: Минимална температура от страната на ниското налягане: **<L>** (°C)
  - *TSmax: Температура на насищане, съответстваща на максимално допустимото налягане (PS): **<M>** (°C)
- Охладител: **<N>**
- Настройка на предпазното устройство за налягане: **<P>** (bar)
- Фабричен номер и година на производство: вижте табелката на модела

22
- Maksimalus leistinas slėgis (PS): **<K>** (bar)
- Minimali/maksimali leistina temperatūra (TS*):
  - *TSmin: Minimali temperatūra žemo slėgio pusėje: **<L>** (°C)
  - *TSmax: Prisotinta temperatūra, atitinkamti maksimalų leistiną slėgį (PS): **<M>** (°C)
- Šaldymo skystis: **<N>**
- Apsauginio slėgio prietaiso nustatymas: **<P>** (bar)
- Gaminio numeris ir pagaminimo metai: žiūrėkite modelio pavadinimo plokštelę

23
- Maksimālais pieļaujamais spiediens (PS): **<K>** (bar)
- Minimālā/maksimālā pieļaujamā temperatūra (TS*):
  - *TSmin: Minimālā temperatūra zemā spiediena pusē: **<L>** (°C)
  - *TSmax: Piesātinātā temperatūra saskaņā ar maksimālo pieļaujamo spiedienu (PS): **<M>** (°C)
- Dzesinātājs: **<N>**
- Spiediena drošības ierīces iestatīšana: **<P>** (bar)
- Izgatavošanas numurs un izgatavošanas gads: skat. modeļa izgatavotājuzņēmuma plāksnītie

24
- Maximálny povolený tlak (PS): **<K>** (bar)
- Minimálna/maximálna povolená teplota (TS*):
  - *TSmin: Minimálna teplota na nízkotlakovej strane: **<L>** (°C)
  - *TSmax: Nasýtená teplota korešpondujúca s maximálnym povoleným tlakom (PS): **<M>** (°C)
- Chladivo: **<N>**
- Nastavenie tlakového poistného zariadenia: **<P>** (bar)
- Výrobné číslo a rok výroby: nájdete na výrobnom štítku modelu

25
- İzin verilen maksimum basınç (PS): **<K>** (bar)
- İzin verilen minimum/maksimum sıcaklık (TS*):
  - *TSmin: Düşük basınç tarafındaki minimum sıcaklık: **<L>** (°C)
  - *TSmax: İzin verilen maksimum basınca (PS) karşı gelen doyma sıcaklığı (PS): **<M>** (°C)
- Soğutucu: **<N>**
- Basınç emniyet düzeninin ayarı: **<P>** (bar)
- İmalat numarası ve imalat yılı: modelin ünite plakasına bakın

<K>	PS	**40**	**bar**
<L>	TSmin	**–30**	**°C**
<M>	TSmax	**63**	**°C**
<N>		**R410A**	
<P>		**40**	**bar**

01 Name and address of the Notified body that judged positively on compliance with the Pressure Equipment Directive: **<Q>**
02 Name und Adresse der benannten Stelle, die positiv unter Einhaltung der Druckanlagen-Richtlinie urteilte: **<Q>**
03 Nom et adresse de l'organisme notifié qui a évalué positivement la conformité à la directive sur l'équipement de pression: **<Q>**
04 Naam en adres van de aangemelde instantie die positief geoordeeld heeft over de conformiteit met de Richtlijn Drukapparatuur: **<Q>**
05 Nombre y dirección del Organismo Notificado que juzgó positivamente el cumplimiento con la Directiva en materia de Equipos de Presión: **<Q>**
06 Nome e indirizzo dell'Ente riconosciuto che ha riscontrato la conformità alla Direttiva sulle apparecchiature a pressione: **<Q>**
07 Όνομα και διεύθυνση του Κοινοποιημένου οργανισμού που απεφάνθη θετικά για τη συμμόρφωση προς την Οδηγία Εξοπλισμών υπό Πίεση: **<Q>**
08 Nome e morada do organismo notificado, que avaliou favoravelmente a conformidade com a directiva sobre equipamentos pressurizados: **<Q>**
09 Название и адрес органа технической экспертизы, принявшего положительное решение о соответствии Директиве об оборудовании под давлением: **<Q>**
10 Navn og adresse på bemyndiget organ, der har foretaget en positiv bedømmelse af, at udstyret lever op til kravene i PED (Direktiv for Trykbærende Udstyr): **<Q>**
11 Namn och adress för det anmälda organ som godkänt uppfyllandet av tryckutrustningsdirektivet: **<Q>**
12 Navn på og adresse til det autoriserte organet som positivt bedømte samsvar med direktivet for trykkutstyr (Pressure Equipment Directive): **<Q>**
13 Sen ilmoitetun elimen nimi ja osoite, joka teki myönteisen päätöksen painelaitedirektiivin noudattamisesta: **<Q>**
14 Název a adresa informovaného orgánu, který vydal pozitivní posouzení shody se směrnicí o tlakových zařízeních: **<Q>**
15 Naziv i adresa prijavljenog tijela koje je donijelo pozitivnu prosudbu o usklađenosti sa Smjernicom za tlačnu opremu: **<Q>**
16 A nyomástartó berendezésekre vonatkozó irányelvnek való megfelelŒséget igazoló bejelentett szervezet neve és címe: **<Q>**
17 Nazwa i adres Jednostki notyfikowanej, która wydała pozytywną opinię dotyczącą spełnienia wymogów Dyrektywy dot. Urządzeń Ciśnieniowych: **<Q>**
18 Denumirea şi adresa organismului notificat care a apreciat pozitiv conformarea cu Directiva privind echipamentele sub presiune: **<Q>**
19 Ime in naslov organa za ugotavljanje skladnosti, ki je pozitivno ocenil združljivost z Direktivo o tlačni opremi: **<Q>**
20 Teavitatud organi, mis hindas Surveseadmete Direktiiviga ühilduvust positiivselt, nimi ja aadress: **<Q>**
21 Наименование и адрес на упълномощения орган, който се е произнесъл положително относно съвместимостта с Директивата за оборудване под налягане: **<Q>**
22 Atsakingos institucijos, kuri davė teigiamą sprendimą pagal slėginės įrangos direktyvą pavadinimas ir adresas: **<Q>**
23 Sertifikācijas institūcijas, kura ir devusi pozitīvu slēdzienu par atbilstību Spiediena Iekārtu Direktīvai, nosaukums un adrese: **<Q>**
24 Názov a adresa certifikačného úradu, ktorý kladne posúdil zhodu so smernicou pre tlakové zariadenia: **<Q>**
25 Basınçlı Teçhizat Direktifine uygunluk hususunda olumlu olarak değerlendirilen Onaylanmış kuruluşun adı ve adresi: **<Q>**

<Q>	**AIB VINÇOTTE INTERNATIONAL** **Avenue du Roi 157** **B-1190 Brussels, Belgium**

DAIKIN

Jean-Pierre Beuselinck
General Manager
Ostend, 1st of February 2011

DAIKIN EUROPE N.V.
Zandvoordestraat 300, B-8400 Oostende, Belgium

2PW40200-3K

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READ THIS MANUAL ATTENTIVELY BEFORE STARTING UP THE UNIT. DO NOT THROW IT AWAY. KEEP IT IN YOUR FILES FOR FUTURE REFERENCE.

IMPROPER INSTALLATION OR ATTACHMENT OF EQUIPMENT OR ACCESSORIES COULD RESULT IN ELECTRIC SHOCK, SHORT-CIRCUIT, LEAKS, FIRE OR OTHER DAMAGE TO THE EQUIPMENT. BE SURE ONLY TO USE ACCESSORIES MADE BY DAIKIN WHICH ARE SPECIFICALLY DESIGNED FOR USE WITH THE EQUIPMENT AND HAVE THEM INSTALLED BY A PROFESSIONAL.

DAIKIN EQUIPMENT IS DESIGNED FOR COMFORT APPLICATIONS. FOR USE IN OTHER APPLICATIONS, PLEASE CONTACT YOUR LOCAL DAIKIN DEALER.

IF UNSURE OF INSTALLATION PROCEDURES OR USE, ALWAYS CONTACT YOUR DEALER FOR ADVICE AND INFORMATION.

THIS AIR CONDITIONER COMES UNDER THE TERM "APPLIANCES NOT ACCESSIBLE TO THE GENERAL PUBLIC".

The English text is the original instruction. Other languages are translations of the original instructions.

1. SAFETY CONSIDERATIONS

The precautions listed here are divided into the following two types. Both cover very important topics, so be sure to follow them carefully.

WARNING
If the warning is not observed, it may cause serious casualties.

CAUTION
If the caution is not observed, it may cause injury or damage to the equipment.

Warning

- Ask your dealer or qualified personnel to carry out installation work. Do not install the machine by yourself.
  Improper installation may result in water leakage, electric shocks or fire.
- Perform installation work in accordance with this installation manual.
  Improper installation may lead to water leakage, electric shocks or fire.
- Be sure to use only the specified accessories and parts for installation work.
  Failure to use the specified parts may result in water leakage, electric shocks, fire, or the unit falling.
- When wiring between the indoor and outdoor units, and wiring the power supply, form the wires so that the frontside panel can be securely fastened.
  If the frontside panel is not in place, overheat of the terminals, electric shocks or a fire may be caused.
- If refrigerant gas leaks during installation work, ventilate the area immediately.
  Toxic gas may be produced if refrigerant gas comes into contact with fire.
- After completing the installation work, check to make sure that there is no leakage of refrigerant gas.
  Toxic gas may be produced if refrigerant gas leaks into the room and comes into contact with a source of fire, such as a fan heater, stove or cooker.
- Before touching electric terminal parts, turn off power switch.
- Live parts can be easily touched by accident.
  Do never leave the unit unattended during installation or servicing when the service panel is removed.
- When planning to relocate former installed units, you must first recover the refrigerant after the pumping-down operation. Refer to chapter "Precaution for pumping-down operation" on page 10.

Caution

- Install drain piping according to this installation manual to ensure good drainage, and insulate the pipe to prevent condensation.
  Improper drain piping may cause water leakage, and make the furnitures get wet.
- Install the indoor and outdoor units, power wire and connecting wire at least 1 meter away from televisions or radios to prevent image interference or noise.
  (Depending on the radio waves, a distance of 1 meter may not be sufficient to eliminate the noise.)
- Do not rinse the outdoor unit. This may cause electric shocks or fire.

Precautions for R410A

- The refrigerant requires strict cautions for keeping the system clean, dry and tight.
  - Clean and dry
    Foreign materials (including mineral oils or moisture) should be prevented from getting mixed into the system.
  - Tight
    Read "7.6. Precautions on refrigerant piping" on page 5 carefully and follow these procedures correctly.
- Since R410A is a mixed refrigerant, the required additional refrigerant must be charged in its liquid state. (If the refrigerant is in state of gas, its composition changes and the system will not work properly).
- The connected indoor units must be indoor units designed exclusively for R410A.

Read "7. Refrigerant piping" on page 4 carefully and follow these procedures correctly.

Since design pressure is 4.0 MPa or 40 bar, pipes of larger wall thickness may be required. Refer to paragraph "7.1. Selection of piping material" on page 4.

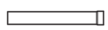
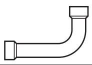
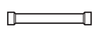
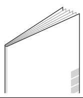
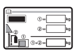
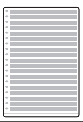
2. Introduction

2.1. Combination

The indoor units can be installed in the following range.

- Always use appropriate indoor units compatible with R410A.
  To learn which models of indoor units are compatible with R410A, refer to the product catalogs.
- For installation of the indoor unit(s), refer to the installation manual delivered with the indoor unit(s).

2.2. Standard supplied accessories

	RZQ200	RZQ250	
Gas line piping (1)	1	1	
Gas line piping (2)	1	1	
Liquid line piping (1)	1	1	
Liquid line piping (2)	1	1	
Installation manual	1	1	
Additional refrigerant charge label	1	1	
Fluorinated greenhouse gases label	1	1	
Multilingual fluorinated greenhouse gases label	1	1	

Refer to figure 2.

1 Installation manual
2 Accessory pipes

2.3. Optional accessories

This outdoor unit requires the pipe branching kit (optional) when using a twin, triple or double twin application. Refer to catalogues for details.

2.4. Technical and Electrical specifications

Refer to the Engineering Data Book for the complete list of specifications.

3. Main components

For main components and function of the main components, refer to the Engineering Data Book.

4. Selection of location

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

This unit, both indoor and outdoor, is suitable for installation in a commercial and light industrial environment. If installed as a house-hold appliance it could cause electromagnetic inteference.

- Make sure to provide for adequate measures in order to prevent that the outdoor unit be used as a shelter by small animals.
- Small animals making contact with electrical parts can cause malfunctions, smoke or fire. Please instruct the customer to keep the area around the unit clean.

The inverter units should be installed in a location that meets the following requirements:

1. The foundation is strong enough to support the weight of the unit and the floor is flat to prevent vibration and noise generation. If not, the unit may fall over and cause injury.
2. The space around the unit is adequate for servicing and the minimum space for air inlet and air outlet is available. (Refer to figure 1 and choose one of the possibilities).
   In case of an installation site where only the sides A+B have obstacles, the wall heights have no influence on any indicated service space dimensions.
   A B C D Sides along the installation site with obstacles
   ➧ Suction side
3. Make sure to provide for adequate measures in order to prevent that the outdoor unit be used as a shelter by small animals.
   Small animals making contact with electrical parts can cause malfunctions, smoke or fire. Please instruct the customer to keep the area around the unit clean.
4. There is no danger of fire due to leakage of inflammable gas.
5. Ensure that water cannot cause any damage to the location in case it drips out the unit (e.g. in case of a blocked drain pipe).
6. The piping length between the outdoor unit and the indoor unit may not exceed the allowable piping length.
7. Select the location of the unit in such a way that neither the discharged air nor the sound generated by the unit disturb anyone.

8 Make sure that the air inlet and outlet of the unit are not positioned towards the main wind direction. Frontal wind will disturb the operation of the unit. If necessary, use a windscreen to block the wind.

9 Do not install or operate the unit on locations where air contains high levels of salt, like e.g. in the vicinity of oceans.

10 During installation, avoid the possibility that children can mount on the unit or place any object on the unit.

Falling or tumble may result in injury.

11 The equipment is not intended for use in a potentially explosive atmosphere.

- The equipment described in this manual may cause electronic noise generated from radio-frequency energy. The equipment complies to specifications that are designed to provide reasonable protection against such interference. However, there is no guarantee that interference will not occur in a particular installation.

  It is therefore recommended to install the equipment and electric wires keeping proper distances away from stereo equipment, personal computers, etc... (See figure 3).

  1 Personal computer or radio
  2 Fuse
  3 Earth leakage breaker
  4 Remote controller
  5 Indoor unit

  In extreme circumstances you should keep distances of 3 m or more and use conduit tubes for power and transmission lines.

- In heavy snowfall areas, select an installation site where snow will not affect operation of the unit.
- The refrigerant R410A itself is nontoxic, nonflammable and is safe. If the refrigerant should leak however, its concentration may exceed the allowable limit depending on room size. Due to this it could be necessary to take measures against leakage.
- Do not install in the following locations.
  - Locations where acidic or alkaline vapour is present.
  - Locations where sulfurous acids and other corrosive gases may be present in the atmosphere. Copper piping and soldered joints may corrode, causing refrigerant to leak.
  - Locations where there is mist of mineral oil, oil spray or vapor for example a kitchen. Plastic parts may deteriorate, and cause them to fall out or water to leak.
  - Locations where the air contains high levels of salt such as that near the ocean.
  - Locations where flammable gases may leak, where thinner, gasoline, and other volatile substances are handled, or where carbon dust and other incendiary substances are found in the atmosphere. Leaked gas may accumulate around the unit, causing an explosion.
  - Locations where equipment that produces electromagnetic waves is found. The electromagnetic waves may cause the control system to malfunction, preventing normal operation.
  - Locations where voltage fluctuates a lot, such as that in factories.
  - In vehicles or vessels.
- During installation, take strong winds, typhoons or earthquakes into account. Improper installation may result in fall over of the unit.

5. Inspecting and handling the unit

At delivery, the package should be checked and any damage should be reported immediately to the carrier claims agent.

When handling the unit, take into account the following:

1 Fragile, handle the unit with care.

Keep the unit upright in order to avoid compressor damage.

2 Choose in advance the path along which the unit is to be brought in.

3 Bring the unit as close as possible to its final installation position in its original package to prevent damage during transport. (See figure 4)

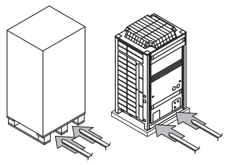
1 Packaging material
2 Opening (large)
3 Belt sling
4 Opening (small) (40x45)
5 Protector

4 Lift the unit preferably with a crane and 2 belts of at least 8 m long. (See figure 4)

Always use protectors to prevent belt damage and pay attention to the position of the unit's centre of gravity.

NOTE Use a belt sling of ≤20 mm wide that adequately bears the weight of the unit.

5 If a forklift is to be used, preferably transport the unit with pallet first, then pass the forklift arms through the large rectangular openings on the bottom of the unit.



5.1 From the moment you use a forklift to move the unit to its final position, lift the unit under the pallet.

5.2 Once at final position, unpack the unit and pass the forklift arms through the large rectangular openings on the bottom of the unit.

NOTE Use filler cloth on the forklift arms to prevent damaging the unit. If the paint on the bottom frame peels off, the anti corrosion effect may decrease.

6. Unpacking and placing the unit

- Remove the four screws fixing the unit to the pallet.
- Make sure the unit is installed level on a sufficiently strong base to prevent vibration and noise.
- Fasten the unit in place using four anchor bolts M12.
- Make sure the base under the unit is more than 765 mm.
- The unit must be installed on a solid longitudinal foundation (steelbeam frame or concrete) as indicated in figure 5.

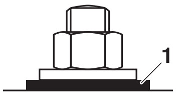
Model	A	B
RZQ200+250	930	792

- Support the unit with a foundation of 66 mm width or more. (The support leg of the unit is 66 mm width).

Do not use stands to support the corners. (See figure 6)

X Not allowed
O Allowed

- Prepare a water drainage channel around the foundation to drain waste water from around the unit.
- If the unit is to be installed on a roof, check the strength of the roof and its drainage facilities first.
- If the unit is to be installed on a frame, install the waterproofing board within a distance of 150 mm under the unit in order to prevent infiltration of water coming from under the unit.
- When installed in a corrosive environment, use a nut with a resin clip plate (1) to protect the nut tightening part from rust.



PRECAUTION

Block all gaps in the holes for passing out piping and wiring using sealing material (field supply). (Small animals may enter the machine.)

Example: passing piping out through the front. (See figure 10)

1 Plug the areas marked with "".
(When the piping is routed from the front panel.)

2 Gas side piping

3 Liquid side piping

7. Refrigerant Piping

Use R410A to add refrigerant.

All field piping must be installed by a licensed refrigeration technician and must comply with relevant local and national regulations.

CAUTION TO BE TAKEN WHEN BRAZING REFRIGERANT PIPING

- Do not use flux when brazing copper-to-copper refrigerant piping. (Particularly for the HFC refrigerant piping) Therefore, use the phosphor copper brazing filler metal (BCuP) which does not require flux.
  Flux has extremely harmful influence on refrigerant piping systems. For instance, if the chlorine based flux is used, it will cause pipe corrosion or, in particular, if the flux contains fluorine, it will damage the refrigerant oil.
- Be sure to perform a nitrogen blow when brazing.
  (Brazing without performing nitrogen replacement or releasing nitrogen into the piping will create large quantities of oxidized film on the inside of the pipes, adversely affecting valves and compressors in the refrigerating system and preventing normal operation.)
- After completing the installation work, check that the refrigerant gas does not leak.
  Toxic gas may be produced if the refrigerant gas leaks into the room and when it comes in contact with a source of fire.
  If any leak would happen:
  - ventilate the area immediately.
  - do not directly touch the refrigerant that leaks. Frostbite may be caused.

NOTE

Installation tools:

Make sure to use installation tools (gauge manifold charge hose, etc.) that are exclusively used for R410A installations to withstand the pressure and to prevent foreign materials (e.g. mineral oils such as SUNISO and moisture) from mixing into the system.
(The screw specifications differ for R410A and R407C.)

Vacuum pump (use a 2-stage vacuum pump with a non-return valve):

- Make sure the pump oil does not flow oppositely into the system while the pump is not working.

7.1. Selection of piping material

- Construction material: phosphoric acid deoxidized seamless copper for refrigerant.
- Temper grade: use piping with temper grade in function of the pipe diameter as listed in table below.
- The pipe thickness of the refrigerant piping should comply with relevant local and national regulations. The minimal pipe thickness for R410A piping must be in accordance with the table below.

Pipe Ø	Temper grade of piping material	Minimal thickness t (mm)
9.5 / 12.7	O	0.80
15.9	O	1.00
22.2	1/2H	1.00

O=Annealed
1/2H=Half hard

7.2. Refrigerant pipe size

Refer to figure 9 for twin system, to figure 12 for triple system and to figure 13 for double twin system.

- Main pipe (pipe between outdoor and first branch).
  The pipes should have the same size as the outdoor connections.

Model		Refrigerant pipe size[(1)] Standard size	Size-up
RZQ200	Gas pipe	Ø22.2	Ø25.4
	Liquid pipe	Ø9.5	Ø12.7
RZQ250	Gas pipe	Ø22.2	Ø25.4
	Liquid pipe	Ø12.7	Ø15.9

(1) In case of twin, triple and double twin applications, the listed refrigerant pipe sizes relate to the main pipes only. (L1 = the pipes between the outdoor unit and the branch in figures 9, 12 and 13).

- Pipe between first branch and second branch (L2+L3) (only for double twin).

Liquid	Ø9.5
Gas	Ø15.9

- Pipe between last branch and indoor units (L2~L3 for twin, L2~L4 for triple and L4~L7 for double twin).
  These pipe sizes must have the same size as the connected indoor units pipe sizes. Branch: see marking '☐' on figures 9, 12 and 13.

NOTE

- For new installations, use the standard pipe sizes.
- When using existing pipes, size-up is allowed as mentioned in the table above.
  Size up is only allowed for pair combination (L1).
  Additional restrictions towards allowable pipe lenghts, as mentioned in the table "Allowable pipe length" on page 5, must be taken into account.
  Not using the standard pipe size may result in capacity decrease. The installer must acknowledge this and judge this very carefully in function of the complete installation.

7.3. Selection of branch pipe

Twin	KHRQ22M20TA
Triple	KHRQ250H
Double twin	KHRQ22M20TA (3x)

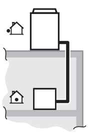
7.4. Allowable pipe length and height difference

See the table below concerning lengths and heights. Refer to figures 8, 9, 12 and 13. Assume that the longest line in the figure corresponds with the actual longest pipe, and the highest unit in the figure corresponds with the actual highest unit.

Allowable pipe length			
Minimum piping length			
All			5 m[1]
Maximum total one way piping length			
Pair	L1	standard	100 m
		size-up of gas pipe	100 m
		size-up of liquid pipe	50 m
Twin	L1+L2	—	100 m
Triple	L1+L2	—	100 m
Double twin	L1+L2+L4	—	100 m
Maximum branch piping length			
Twin and triple	L2	—	20 m
Double twin	L2+L4	—	20 m
Maximum difference between branch lengths			
Twin	L2–L3	—	10 m
Triple	L2–L4	—	10 m
Double twin	L2–L3, L6–L7, (L2+L4)–(L3+L7)	—	10 m
Maximum height between indoor and outdoor			
All	H1	—	30 m
Maximum height between indoors			
Twin, triple and double twin	H2	—	0.5 m
Chargeless length			
All	L1+L2+L3+L4+L5 +L6+L7	standard	30 m
		size-up of gas pipe	30 m
		size-up of liquid pipe	10 m

(1) The minimum piping length must be 5 m. If installation is performed with less field piping, the system will be overcharged (abnormal HP, etc.). If the distance between indoor and outdoor unit is less than 5 m, please make sure that the piping length is ≥5 m by additional bending of the pipes.

⚠ If size-up of liquid pipes are used, the indoor unit must be installed on a lower location than the outdoor unit.



7.5. Existing or pre-installed piping can be used

1. Piping must comply with the criteria below.
   - Pipe diameter must comply with the limitations as indicated in paragraph "7.2. Refrigerant pipe size" on page 4.
   - Piping length must be within limits of the allowable piping length as in paragraph "7.4. Allowable pipe length and height difference" on page 5.
   - Piping must be designed for R410A. See paragraph "7.1. Selection of piping material" on page 4.
2. Only main piping can be reused without cleaning when:
   - Total 1-way piping length: <50 m.
   - No compressor breakdown has occured in the history of the unit to be replaced.
   - A correct pump down operation can be executed:
     - Operate the unit continuously for 30 minutes in cooling mode.
     - Execute a pump down operation.
     - Remove the airconditioning units to be replaced.
   - Check the contamination inside the existing piping.

   If you cannot meet all these requirements, the existing pipes must be cleaned or replaced after removing the air conditioning units to be replaced.

7.6. Precautions on refrigerant piping

- Do not allow anything other than the designated refrigerant to get mixed into the freezing cycle, such as air, etc. If any refrigerant gas leaks while working on the unit, ventilate the room thoroughly right away.
- In order to prevent dirt, liquid or dust from entering the piping, cure the piping with a pinch or taping.

Place	Installation period	Protection method
Outdoor side	More than a month	Pinch the pipe
	Less than a month	Pinch or tape the pipe
Indoor side	Regardless of the period	

  Great caution is needed when passing copper tubes through walls.

- In case of simultaneous operating system
  - Upward and downward piping should be performed at the main piping line.
  - Use branch piping kit (optional) for branching refrigerant pipes.

Precautions to be taken. (For details, refer to the manual attached to branch piping kit.)

- Install the branch pipes horizontally (with a maximum inclination of 15°) or vertically.
- Length of branch pipe to the indoor unit should be as short as possible.
- Try to keep lengths of both branch pipes to the indoor unit equal.

- When re-using existing refrigerant piping

  Pay attention to the following points when re-using existing refrigerant piping
  - Perform a visual check on quality of residual oil in existing refrigerant piping.

    This check is extremely important because using existing piping with deteriorated oil will cause compressor breakdown.
    - Put some residual oil of the pipes you want to reuse on a piece of white paper or on the white surface of an oil checking reference card and compare that oil color with the circled color of the oil checking reference card.
    - If oil color is identical to the circled color or darker, replace the piping, install new piping or clean the piping thoroughly.
    - If oil color is lighter, the pipes can be reused without cleaning.

    An oil checking reference card is indispensable for such evaluation and can be obtained at your dealer.
  - In the following situations, the existing piping should not be re-used and new piping should be installed.
    - If the previously used model had problems with its compressor (this might cause oxidized coolant oil, scale residue and other adverse effects).
    - If the indoor or outdoor units were disconnected from the piping for a long period of time (water or dirt might have gotten into the piping).
    - If copper piping is corroded.
  - Existing flares may not be re-used but new ones must be made in order to prevent leaks.
  - Check welded connections for gas leaks, if the local piping has welded connections.
  - Replace deteriorated insulation with new material.

7.7. Connecting the refrigerant piping

1 Installation of refrigerant branching kit. (See figure 14)

For installation, refer to the installation manual delivered with the kit. Follow the conditions listed below:
Mount the refnet joint so that it branches either horizontally (see view A) or vertically.

1 Horizontal surface

2 Removing the pinched piping

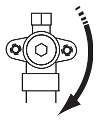
Never remove the pinched piping by brazing.

Any gas or oil remaining inside the stop valve may blow off the pinched piping.

Failure to observe the instructions in procedure below properly may result in property damage or personal injury, which may be serious depending on the circumstances.

Use the following procedure to remove the pinched piping:

1 Remove the valve lid and make sure that the stop valves are fully closed.



2 Connect a charge hose to service ports of all stop valves.

3 Recover gas and oil from the pinched piping by using a recovery unit.

Do not vent gases into the atmosphere.

4 When all gas and oil is recovered from the pinched piping, disconnect the charge hose and close the service ports.

5 In case the pinched piping lower part looks like detail **A** in the illustration, follow instructions as per procedure steps 7+8.

In case the pinched piping lower part looks like detail **B** in the illustration, follow instructions as per procedure steps 6+7+8.

6 Cut off the lower part of the smaller pinched piping with an appropriate tool (e.g. a pipe cutter, a pair of nippers, ...) so that a cross-section is open, allowing remaining oil to drip out in case the recovery was not complete.



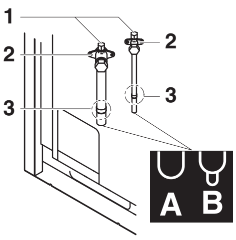
Wait until all oil is dripped out.

7 Cut the pinched piping off with a pipe cutter just above the brazing point or just above the marking in case there is no brazing point.

Never remove the pinched piping by brazing.



8 Wait until all oil is dripped out in case the recovery was not complete, and only then proceed with connection of the field piping.



1 Service port

2 Stop valve

3 Point of pipe cutting just above brazing point or above marking

A Pinched piping 

B Pinched piping 

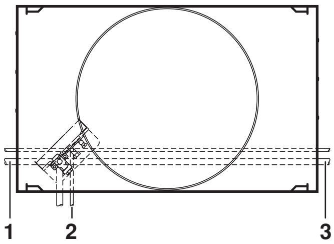
Precautions when connecting field piping.

- Perform brazing at the gas stop valve before brazing at the liquid stop valve.
- Add brazing material as shown in the figure.



- Be sure to use the supplied accessory pipes when carrying out piping work in the field.
- Be sure that the field installed piping does not touch other pipes, the bottom panel or side panel. Especially for the bottom and side connection, be sure to protect the piping with suitable insulation, to prevent it from coming into contact with the casing.

3 Installation of refrigerant piping is possible as front connection or side connection (when taken out from the bottom) as shown in the figure below.



1 Left-side connection

2 Front connection

3 Right-side connection

- Front connection:
  Remove the stop valve cover to connect. (See figure 7)
- Side (bottom) connection:
  Remove the knock holes on the bottom frame and route the piping under the bottom frame. (See figure 7)

A Front connection
Remove the stop valve cover to connect.

B Bottom connection:
Remove the knock holes on the bottom frame and route the piping under the bottom frame

1 Gas side stop valve

2 Liquid side stop valve

3 Service port for adding refrigerant

4 Gas side accessory pipe (1)

5 Gas side accessory pipe (2)

6 Liquid side accessory pipe (1)

7 Liquid side accessory pipe (2)

8 Brazing

9 Gas side piping (field supply)

10 Liquid side piping (field supply)

11 Punch the knockout holes (use a hammer)

Precautions when knocking out knockout holes

- Be sure to avoid damaging the casing.
- After knocking out the holes, we recommend you paint the edges and areas around the edges using the repair paint to prevent rusting.
- When passing electrical wiring through the knock holes, wrap the wiring with protective tape to prevent damage.

4 Make sure to perform the piping installation within the range of the maximum allowable pipe length, allowable level difference and allowable length after branching as indicated in "7.4. Allowable pipe length and height difference" on page 5.

5 For installation of the refrigerant branching kit (Refnet), refer to the installation manual delivered with the kit.

6 Pipe connection

Be sure to perform a nitrogen blow when brazing.
(Brazing without performing nitrogen replacement or releasing nitrogen into the piping will create large quantities of oxidized film on the inside of the pipes, adversely affecting valves and compressors in the refrigerating system and preventing normal operation.)

NOTE The pressure regulator for the nitrogen released when doing the brazing should be set to 0.02 MPa or less. (See figure 11)

1 Refrigerant piping
2 Location to be brazed
3 Nitrogen
4 Taping
5 Manual valve
6 Regulator

Do not use anti-oxidants when brazing the pipe joints.

Residue can clog pipes and break equipment.

Cautions for necessity of a trap

Since there is fear of the oil held inside the riser piping flowing back into the compressor when stopped and causing liquid compression phenomenon, or cases of deterioration of oil return, it will be necessary to provide a trap at an appropriate place in the riser gas piping.

■ Trap installation spacing. (See figure 16)

A Outdoor unit
B Indoor unit
C Gas piping
D Liquid piping
E Oiltrap
H Install trap at each difference in height of 10 m.

■ A trap is not necessary when the outdoor unit is installed in a higher position than the indoor unit.

7.8. Leak test and vacuum drying

The units were checked for leaks by the manufacturer.
After connecting the field piping, perform the following inspections.

1 Preparations

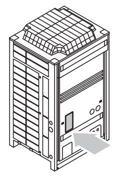
Referring to figure 15, connect a nitrogen tank, a cooling tank, and a vacuum pump to the outdoor unit and perform the airtightness test and the vacuum drying. The stop valve and valves A and B in figure 15 should be open and closed as shown in the table below when performing the airtightness test and vacuum drying.

1 Pressure reducing valve
2 Nitrogen
3 Measuring instrument
4 Tank (siphon system)
5 Vacuum pump
6 Charge hose
7 Service port for adding refrigerant
8 Gas line stop valve
9 Liquid line stop valve
10 Outdoor unit
11 To indoor unit
12 Stop valve service port
13 Dotted lines represent on site piping
14 Valve B
15 Valve C
16 Valve A

State of the valves A and B and the stop valve	Valve A	Valve B	Valve C	Liquid side stop valve	Gas side stop valve
Performing the airtightness test and vacuum drying (Valve A must always be shut. Otherwise the refrigerant in the unit will pour out.)	Close	Open	Open	Close	Close

2 Airtightness test and vacuum drying

NOTE Make sure to perform airtightness test and vacuum drying using the service ports of the stop valves of the liquid side and of the gas side. (For the service port location, refer to the "Caution" label attached on the front panel of the outdoor unit.)



■ See "7.11. Stop valve operation procedure" on page 8 for details on handling the stop valve.

■ To prevent entry of any contamination and to prevent insufficient pressure resistance, always use the special tools dedicated for working with R410A refrigerant.

■ Airtightness test:

NOTE Make sure to use nitrogen gas.

Pressurize the liquid and gas pipes to 4.0 MPa (40 bar) (do not pressurize more than 4.0 MPa (40 bar)). If the pressure does not drop within 24 hours, the system passes the test. If the pressure drops, check where the nitrogen leaks from.

■ Vacuum drying: Use a vacuum pump which can evacuate to –100.7 kPa (5 Torr, –755 mm Hg)

1. Evacuate the system from the liquid and gas pipes by using a vacuum pump for more than 2 hours and bring the system to –100.7 kPa. After keeping the system under that condition for more than 1 hour, check if the vacuum gauge rises or not. If it rises, the system may either contain moisture inside or have leaks.

2. Following should be executed if there is a possibility of moisture remaining inside the pipe (if piping work is carried out during the raining season or over a long period of time, rainwater may enter the pipe during work).
After evacuating the system for 2 hours, pressurize the system to 0.05 MPa (vacuum break) with nitrogen gas and evacuate the system again using the vacuum pump for 1 hour to –100.7 kPa (vacuum drying). If the system cannot be evacuated to –100.7 kPa within 2 hours, repeat the operation of vacuum break and vacuum drying.
Then, after leaving the system in vacuum for 1 hour, confirm that the vacuum gauge does not rise.

7.9. Pipe insulation

After finishing the leak test and vacuum drying, the piping must be insulated. Take into account the following points:

■ Make sure to insulate the connection piping and refrigerant branch kits entirely.

■ Be sure to insulate liquid and gas piping.

■ Use heat resistant polyethylene foam which can withstand a temperature of 70°C for liquid side piping and polyethylene foam which can withstand a temperature of 120°C for gas side piping.

■ If you think the temperature and the relative humidity around the cooling pipes might exceed 30°C and RH 80%, reinforce the insulation of the cooling pipes (at least 20 mm thick). Condensation might be formed on the surface of the insulation.

- If there is a possibility that condensation on the stop valve might drip down to the indoor side through gaps in the insulation and piping because the outdoor unit is located higher than the indoor unit this must be prevented by sealing up the connections. See figure 20.

1 Liquid line stop valve
2 Gas line stop valve
3 Indoor -outdoor interconnection piping
4 Sealing up treatment
5 Heat insulator

Be sure to insulate local pipes, as touching them can cause burns.

7.10. Checking of unit and installation conditions

Be sure to check the following:

1 Make sure there is no faulty power wiring or loosing of a nut. See "8. Field wiring" on page 11.

2 Make sure there is no faulty transmission wiring or loosing of a nut. See "8. Field wiring" on page 11.

3 Make sure there is no faulty refrigerant piping. See "7. Refrigerant piping" on page 4.

4 Make sure piping size is correct. See "7.1. Selection of piping material" on page 4.

5 Make sure insulation work is done. See "7.9. Pipe insulation" on page 7.

6 Make sure insulation resistance of main power circuit is not deteriorated.
Using a megatester for 500 V, check that the insulation resistance of 2 MΩ or more is attained by applying a voltage of 500 V DC between power terminals and earth. Never use the megatester for the transmission wiring (between outdoor and indoor unit, outdoor and COOL/HEAT selector, etc.).

7.11. Stop valve operation procedure

Do not open the stop valve until the steps 1~6 of "7.10. Checking of unit and installation conditions" on page 8 are completed. If the stop valve is left open without turning on the power, it may cause refrigerant to buildup in the compressor, leading to insulation degradation.

Introduction

Confirm the sizes of the stop valves connected to the system referring to the table below.

Model	Liquid line stop valve	Gas line stop valve
RZQ200	Ø9.5	Ø22.2
RZQ250	Ø9.5→12.7 (with reducer)	Ø22.2

Opening stop valve

1. Remove the cap and turn the valve counterclockwise with the hexagon wrench.
2. Turn it until the shaft stops.
Do not apply excessive force to the stop valve. Doing so may break the valve body, as the valve is not a backseat type. Always use the special tool.
3. Make sure to tighten the cap securely.

Closing stop valve

1. Remove the cap and turn the valve clockwise with the hexagon wrench.
2. Securely tighten the valve until the shaft contacts the main body seal.
3. Make sure to tighten the cap securely.
For the tightening torque, refer to the table below.

Tightening torque (N·m) (Turn clockwise to close)						
stop valve size	Shaft (valve body)		Cap (valve lid)	Service port	Flare nut	Gas line piping attached to unit
Ø9.5	5.4~6.6	Hexagonal wrench 4 mm	13.5~16.5	11.5~13.9	33~40	—
Ø12.7	8.1~9.9		18~22		50~60	
Ø15.9	13.5~16.5	Hexagonal wrench 6 mm	23~27		62~75	
Ø22.2	27~33	Hexagonal wrench 10 mm	36~44		—	22~28
Ø25.4						

(See figure 18)

1 Service port
2 Cap
3 Hexagon hole
4 Shaft
5 Seal

CAUTION

- Always use a charge hose for service port connection.
- After tightening the cap, check that no refrigerant leaks are present.

7.12. Additional refrigerant charge

Important information regarding the refrigerant used

This product contains fluorinated greenhouse gases covered by the Kyoto Protocol. Do not vent gases into the atmosphere.

Refrigerant type: R410A
GWP[(1)] value: 1975

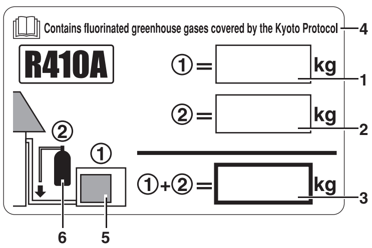
[(1)] GWP = global warming potential

Please fill in with indelible ink,

- ① the factory refrigerant charge of the product,
- ② the additional refrigerant amount charged in the field and
- ①+② the total refrigerant charge

on the fluorinated greenhouse gases label supplied with the product.

The filled out label must be adhered on the inside of the product and in the proximity of the product charging port (e.g. on the inside of the service cover).



1 factory refrigerant charge of the product: see unit name plate
2 additional refrigerant amount charged in the field
3 total refrigerant charge
4 Contains fluorinated greenhouse gases covered by the Kyoto Protocol
5 outdoor unit
6 refrigerant cylinder and manifold for charging

NOTE National implementation of EU regulation on certain fluorinated greenhouse gases may require to provide the appropriate official national language on the unit. Therefore, an additional multilingual fluorinated greenhouse gases label is supplied with the unit.

Sticking instructions are illustrated on the backside of that label.

Precaution for servicing

When performing service on the unit requiring the refrigerant system to be opened, refrigerant must be evacuated according to local regulations.

This unit requires additional charging of refrigerant according to the length of pipe connected at the site. Charge the refrigerant to the liquid pipe in its liquid state through the serviceport of the liquid stop valve. Since R410A is a mixed refrigerant, its composition changes if charged in a state of gas and normal system operation would no longer be assured.

On this model it is not necessary to charge additionaly if the standard pipe size in pair combination is used and if the total piping length ≤30 m.

Additional charging of refrigerant

Installations with total piping lengths ≤30 m do not require additional charging of refrigerant.

For total piping lengths over 30 m, calculate the required additional refrigerant in function of the calculated length and pipe diameters like explained in the following procedure.

1 Add up the total piping length.
   - In case the result is ≤30 m, your installation does not require any additional charge.
   - In case the result is over 30 m, proceed as explained from step 2 onwards.

2 Subtract 30 m from the calculated total piping length. Take note of this rest value and, starting from the outdoor unit, check the exact position in the refrigerant flow where you reach this rest value.

3 Determine the pipe diameter at that position in the refrigerant flow.

4 From that same position on, add up the remaining pipe lengths of that same pipe diameter downstream to the indoor unit(s).

5 Determine the required additional refrigerant charge in function of the calculated pipe length of that pipe diameter by multiplying that length by the appropriate calculation coefficient.

   Take note of the calculated weight.

6 Repeat step 5 for other pipe diameters in function of other pipe diameter pipe lengths downstream to the indoor units and add up all calculated weights.

7 The sum of all calculated weights is the total required additional refrigerant charge for your installation.

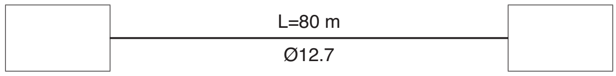
   The final result must be rounded to 100 g.

8 Calculation coefficients

Ø	Coefficient
12.7	0.09
9.5	0.05
6.4	0.03

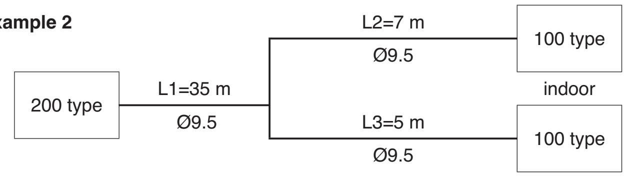
9 See the examples below for a clear understanding.

Example 1



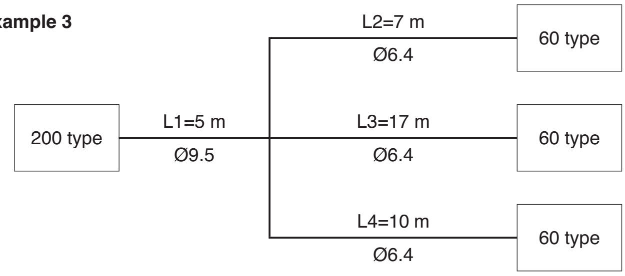
Chargeless length = 30 m
Additional refrigerant charge = (80–30)x0.09 = 50x0.09 = 4.5 kg

Example 2



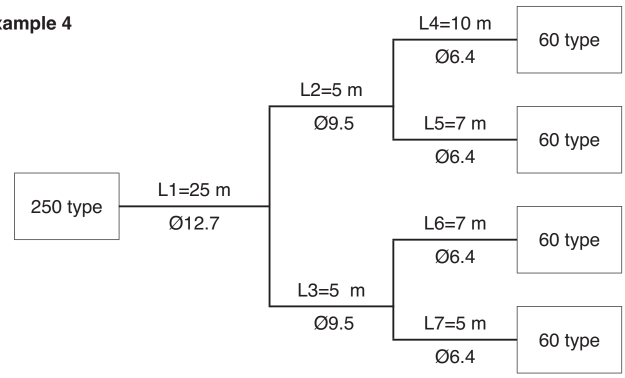
Chargeless length = 30 m
Additional refrigerant charge
= ((35+7+5)–30)x0.05 = 17x0.05 = 0.85 kg = 0.9 kg

Example 3



Chargeless length = 30 m
Ø9.5 (30–5) = 25 m
Ø6.4 25–(7+17+10) = –9 m
Additional refrigerant charge = 9x0.03 = 0.27 kg = 0.3 kg

Example 4



Chargeless length = 30 m
Ø12.7 (30–25) = 5 m
Ø9.5 5–(5+5) = –5 m
Ø6.4 10+7+7+5 = 29 m
Additional refrigerant charge = (5x0.05)+(29x0.03) = 1.12 kg = 1.1 kg

In case of complete recharge of the refrigerant, please first execute vacuuming. Vacuuming must be executed using the both 2 service ports situated on the piping inside the airconditioning outdoor unit simultaneously.
Make sure that both stop valves are open for vacuuming.
Vacuuming can not be executed completely using the ports on the stop valves.

Total charging weight of the refrigerant (after a leak, etc.)

The total charging amounts relate to the refrigerant piping length as in "Maximum total one way piping length" of the table in paragraph "7.4. Allowable pipe length and height difference" on page 5, the factory charging amount is mentioned on the nameplate label.

For the total charging amount refer to the additional refrigerant charge sticker mounted on the unit.

Precaution for pumping-down operation

Take the following steps to perform the pumping-down operation.

	Procedure	Precaution
1	Stop the unit from operating.	Use the remote controller.
2	Put a pressure gauge at the service port of the gas stop valve.	Use a pressure gauge reserved for R410A exclusively.
3	Close the stop valve on the liquid side securely and open the the gas side completely.	Insecure closing of the valve may result in burning of the compressor.
4	Start the fan operation with the remote controller.	Confirm that the stop valve: • on the liquid is closed • on the gas side is open.
5	Push the pumping-down button (BS5) on the PC board of the outdoor unit for more than 5 seconds.	The H2P LED will flash. Compressor and outdoor fan will start operation automatically. If step 5 is performed before step 4, then the indoor fan may automatically start running. Please pay attention to this.
6	Continue operation (automatic operation) for a maximum of 20 minutes.	—
7	The unit stops working. At this time, close the stop valve on the gas side.	—

This is the end of pumping-down operation. After pumping-down operation, the remote controller can show the following pattern:

- "U4"
- blank screen
- indoor fan operates for about 30 seconds

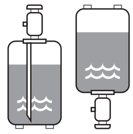
Even when ON button on the remote controller is pressed, it will not operate. Turn off the main power supply switch and turn it on again in need of operation.

Be sure to re-open stopvalves before re-starting the unit operation.

To avoid compressor breakdown. Do not charge the refrigerant with more than the specified amount.

- This outdoor unit is factory charged with refrigerant and depending on pipe sizes and pipe lengths, some systems require additional charging of refrigerant. (Refer to "Additional refrigerant charge" on page 8).
- Make sure to use installation tools you exclusively use on R410A installations to withstand the pressure and to prevent foreign materials from mixing into the system.
- Charge the refrigerant to the liquid pipe in its liquid state. Since R410A is a mixed refrigerant, its composition changes if charged in a state of gas and normal system operation would no longer be assured.
- Before charging, check whether the refrigerant cylinder is equipped with a siphon tube or not.

Charge the liquid refrigerant with the cylinder in upright position.



Charge the liquid refrigerant with the cylinder in up-side-down position.

- Determine the weight of refrigerant to be charged additionally referring to the item "Additional refrigerant charge" in "Total charging weight of the refrigerant (after a leak, etc.)" on page 10 and fill in the amount in the "Additional refrigerant charge label" attached to the unit.

Charging while the outdoor unit is at standstill

After the vacuum drying is finished, charge the additional refrigerant in its liquid state through the liquid stop valve service port taking into account following instructions:

- Check that gas and liquid stop valves are closed.
- Stop the compressor and charge the specified weight of refrigerant.

⚠ If the total refrigerant cannot be charged while the outdoor unit is at standstill, it is possible to charge the refrigerant by operating the outdoor unit using the refrigerant charge function (refer to "Setting mode 2" on page 17).

Charging while the outdoor unit is operating

1. Charge refrigerant as much as possible when the power supply is switched off.
2. Turn the power supply on and charge only the amount of lacking refrigerant.
3. Completely open the gas line stop valve.

   See figure 15 and refer to "Airtightness test and vacuum drying" on page 7 for nomenclature of the parts in figure 15.
   Valve A must be left fully closed.
   Make sure the liquid stop valve is totally shut. If it is open, the refrigerant cannot be charged.
   Charge the additional refrigerant in its liquid state through the service port of the liquid line stop valve.
4. While the unit is at standstill and under setting mode 2 (refer to Checks before initial start-up, "Setting the mode 2" on page 15), set the required function A (additional refrigerant charging operation) to **ON** (ON). Then operation starts. The blinking H2P LED indicates test operation and the remote controller indicates (test operation).
5. When the specified amount of refrigerant is charged, push the **BS3 RETURN** button. Then operation stops.
   - The operation automatically stops within 30 minutes.
   - If the refrigerant charge cannot be finished within 30 minutes, repeat step 2.
   - If the operation stops immediately after restart, there is a possibility that the system is overcharged.
     The refrigerant cannot be charged more than this amount.
6. After the refrigerant charge hose is removed, make sure to fully open the liquid stop valve. Otherwise the piping may burst due to blocked liquid.

8. Field wiring

- All field wiring and components must be installed by a licensed electrician and must comply with relevant local and national regulations.
- The field wiring must be carried out in accordance with the wiring diagrams and the instructions given below.
- Be sure to use a dedicated power circuit. Never use a power supply shared by another appliance. This can lead to electrical shock or fire.
- Insufficient capacity of the power supply circuit or improper electrical construction may lead to electric shocks or fire.
- Do not operate until refrigerant piping work is completed.
  (If operated before completion of the piping work, the compressor may break down.)
- Never remove a thermistor, sensor, etc., when connecting power wiring and transmission wiring.
  (If operated without thermistor, sensor, etc., the compressor may break down.)
- The reversed phase protection detector of this product only works during the initialisation stage after a power reset.
  The reversed phase protection detector is designed to stop the product in case of an abnormality when the product is started up.
  When the reversed phase protection circuit forced the unit to stop, check if all phases are existing. If this is the case, shut off the power supply to the unit and replace two of three phases. Turn on power again and start the unit.
- Reversed phase detection is not performed while the product is operating.
- In case of possible reversal of phases after a momentary black out of power and the power goes on and off while the product is operating, install a reversed phase protection circuit on site. Such situation is not unimaginable when using generators. Running the product in reversed phase can break the compressor and other parts.
- Ground the air conditioner.
  Grounding resistance should be according to national regulations
  Do not connect the earth wire to gas or water pipes, lightning conductor or telephone earth wire.
  Incomplete grounding may cause electric shocks.
  - Gas pipe.
    Ignition or explosion may occur if the gas leaks.
  - Water pipe.
    Hard vinyl tubes are not effective grounds.
  - Lightning conductor or telephone ground wire.
    Electric potential may rise abnormally if struck by a lightning bolt.
- Be sure to install an earth leakage breaker and fuse.
  Failure to install an earth leakage breaker may cause electric shocks and fire.

8.1. Internal wiring – Parts table

Refer to the wiring diagram sticker on the unit. The abbreviations used are listed below:

A1P~A6P	Printed circuit board (main, noise filter, inverter, fan, QA transmission) A5P (option) printed circuit board (for demand)
BS1~BS5	Push button switch (mode, set, return, test, forced defrost)
C1,C63,C66	Capacitor
DS1,DS2	DIP switch
E1HC	Crankcase heater
F1U	Fuse (DC 650 V, 8 A)(A4P)
F1U,F2U	Fuse (250 V, 3.15 A, T)(A1P)
F400U	Fuse (250 V, 6.3 A, T)(A2P)
H1P~H7P	Light emitting diode (service monitor - orange) (H2P prepare test - blinking) (H2P malfunction detection - light up)
HAP	Pilot lamp (service monitor - green)
K1	Magnetic relay
K2	Magnetic contactor (M1C)
K3R~K7R	Magnetic relay (Y1S, Y2S, Y3S, E1HC)
L1,L2,L3	Live
L1R	Reactor
M1C	Motor (compressor)
M1F	Motor (fan)
N	Neutral
PS	Switching power supply (A1P, A3P)
Q1RP	Phase reversal detect circuit
Q1DI	Earth leak breaker
R10	Resistor (current sensor) (A4P)
R50,R59	Resistor
R95	Resistor (current limiting)
R1T	Thermistor (air) (A1P)
R1T	Thermistor (fin) (A3P)
R2T	Thermistor (suction)
R3T	Thermistor (discharge) (M1C)
R4T	Thermistor (coil-deicer)
R4T	Thermistor (heat exchange deicer)
R5T	Thermistor (sub cool outlet)
RC	Signal receiver circuit
S1NPH	Pressure sensor (high)
S1NPL	Pressure sensor (low)
S1PH	Pressure switch (high)
SD1	Safety devices input
TC	Signal transmission circuit
V1R	Power module (A4P)
V1R,V2R	Power module (A3P)
X1A,X2A	Connector (Y1E,Y2E)
X1M	Terminal strip (power supply)
X2M	Terminal strip (QA transmission)
Y1E	Electronic expansion valve (main)
Y2E	Electronic expansion valve (subcool)
Y1S	Solenoid valve (hotgas bypass)
Y2S	Solenoid valve (gas purge of receiver)
Y3S	Solenoid valve (4-way valve)
Z1C~Z4C	Noise filter (ferrite core)
Z1F	Noise filter (with surge absorber)

...............Field wiring

.....................Indication of parts outside switch box

.....................Terminal strip

...........................Connector

..........................Terminal

..........................Protective earth (screw)

BLK ....Black

BLU ....Blue

BRN........................Brown

GRN ....Green

GRY........................Gray

ORG ....Orange

PNK........................Pink

RED........................Red

WHT ....White

YLW........................Yellow

NOTE

- The wiring diagram only applies to the outdoor unit
- When using the option adaptor, refer to the installation manual
- Refer to the installation manual on how to use BS1~BS5 and DS1, DS2 switch
- Do not operate the unit by short-circuiting protection device S1PH

8.2. Optional connectors

X36A,X66A.............Connector (adaptor power supply) (see note 4)

NOTE

- Use copper conductors only.
- For connection wiring to the central remote controller, refer to the installation manual of the central remote controller.
- Use insulated wire for the power cord.

8.3. Power circuit and cable requirements

A power circuit (see table below) must be provided for connection of the unit. This circuit must be protected with the required safety devices, i.e. a main switch, a slow blow fuse on each phase and an earth leakage breaker.

	Phase and frequency	Voltage	Recommended fuses	Transmission line section
RZQ200	3N~ 50 Hz	380~415 V	25 A	H05VV-U4G2.5
RZQ250	3N~ 50 Hz	380~415 V	25 A	H05VV-U4G2.5

When using residual current operated circuit breakers, be sure to use high-speed type circuit breakers of maximum 30 mA that can handle higher harmonics.

Point for attention regarding quality of the public electric power supply

This equipment complies with EN/IEC 61000-3-12[1] provided that the short-circuit power S_{sc} is greater than or equal to 1025 kVA at the interface point between the user's supply and the public system.

It is the responsibility of the installer or user of the equipment to ensure, by consultation with the distribution network operator if necessary, that the equipment is connected only to a supply with a short-circuit power S_{sc} greater than or equal to 1025 kVA.

Above indicated value is the most stringent value. Refer to databooks for specific product-data.

Be sure to install a main switch for the complete system.

(1) European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current >16 A and ≤75 A per phase.

NOTE

- Select the power supply cable in accordance with relevant local and national regulations.
- Wire size must comply with the applicable local and national code.
- Specifications for local wiring power cord and branch wiring are in compliance with IEC60245.
- WIRE TYPE H05VV(*)
  *Only in protected pipes (use H07RN-F when protected pipes are not used).

8.4. General cautions ⚠

- Make sure to connect the power source wire to the power source terminal block and to clamp it as shown in figure 21, chapter "Field line connection".
- As this unit is equipped with an inverter, installing a phase advancing capacitor not only will deteriorate power factor improvement effect, but also may cause capacitor abnormal heating accident due to high-frequency waves. Therefore, never install a phase advancing capacitor.
- Keep power imbalance within 2% of the supply rating.
  - Large imbalance will shorten the life of the smoothing capacitor.
  - As a protective measure, the product will stop operating and an error indication will be made, when power imbalance exceeds 4% of the supply rating.
- Only proceed with wiring work after switching off all power sources.
- Always ground wires. (In accordance with local regulations.)
- Do not connect the ground wire to gas pipes, sewage pipes, lightning rods, or telephone ground wires. This may cause electric shock.
  - Combustion gas pipes: can explode or catch fire if there is a gas leak.
  - Sewage pipes: no grounding effect is possible if hard plastic piping is used.
  - Telephone ground wires and lightning rods: dangerous when struck by lightning due to abnormal rise in electrical potential in the grounding.
- This unit uses an inverter, and therefore generates noise, which will have to be reduced to avoid interfering with other devices. The outer casing of the product may take on an electrical charge due to leaked electrical current, which will have to be discharged with the grounding.
- Be sure to install an earth leakage breaker. (One that can handle higher harmonics.)
  (This unit uses an inverter, which means that an earth leakage breaker capable of handling high harmonics needs to be used in order to prevent malfunctioning of the earth leakage breaker itself.)
- Earth leakage breakers which are especially designed for protecting ground-faults must be used in conjunction with main switch and fuse for use with wiring.
- This unit has a reverse phase protection circuit. (If it operates, only operate the unit after correcting the wiring.)
- Power supply wires must be attached securely.
- If the power supply would have a missing N-phase or a mistaken N-phase, equipment will break down.
- Make sure that all wiring is secured, the specified wires are used, and no external forces act on the terminal connection or wires.
  Improper connections or installation may result in fire.
- When wiring the power supply and connecting the remote controller wiring and transmission wiring, position the wires so that the control box lid can be securely fastened.
  Improper positioning of the control box lid may result in electric shocks, fire, or the overheating of the terminals.

8.5. Examples

System example (See figure 22)

- **1** Field power supply
- **2** Main switch
- **3** Earth leakage breaker
- **4** Fuse
- **5** Remote controller
- **—** Power supply wiring (sheathed cable)
- **—** Wiring between units (sheathed cable)

Field line connection

L1, L2, L3, N-phase of the power cord should be clamped to the plastic bracket using field supplied clamp material.

The green and yellow striped wrapped wires should be used for grounding. (See figure 21)

- **1** Power supply (380~415 V, 3N~ 50 Hz)
- **2** Fuse
- **3** Earth leakage breaker
- **4** Grounding wire
- **5** Power supply terminal block
- **6** Connect each power wire
  RED to L1, WHT to L2, BLK to L3 and BLU to N
- **7** Ground wire (GRN/YLW)
- **8** Clamp the power wire to the plastic bracket using a field supplied clamp to prevent external force being applied to the terminal.
- **9** Clamp (field supply)

See figure 24

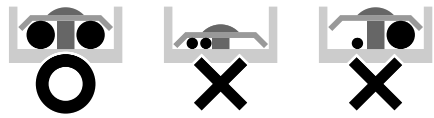
- **1** Power supply wiring
- **2** Wiring between units
- **3** Clamp to the electric box with field supplied clamps.
- **4** When routing out the power/ground wires from the right side:
- **5** When routing the remote control cord and inter-unit wiring, secure clearance of 50 mm or more from the power wiring. Ensure that the power wiring does not contact any heated sections ( ).
- **6** Clamp to the back of the column support with field supplied clamps.
- **7** When routing out the inter-unit wirings from the opening for piping:
- **8** When routing out the power/ground wires from the front:
- **9** When routing out the ground wires from the left side:
- **10** Grounding wire
- **11** When wiring, pay attention not to detach the acoustic insulators from the compressor.

Precautions when installing power wiring

Use round pressure terminals for connections to the power terminal block.

When none are available, follow the instructions below.

- Do not connect wiring of different thicknesses to the power terminal block. (Slack in the power wiring may cause abnormal heat.)
- When connecting wiring which is the same thickness, do as shown in the figure below.

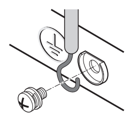


- For wiring, use the designated power wire and connect firmly, then secure to prevent outside pressure being exerted on the terminal board.
- Use an appropriate screwdriver for tightening the terminal screws. A screwdriver with a small head will strip the head and make proper tightening impossible.
- Over-tightening the terminal screws may break them.
- Make sure that all wiring is secure, using the specified wires and ensuring that external forces do not act on the terminal connections or wires.
  Incomplete connection or fixing may cause a fire.
- See the table below for tightening torque for the terminal screws.

Tightening torque (N·m)	
M8 (Power terminal block) (X4M)	5.5~7.3
M8 (Ground)	
M3 (Optional wiring terminal block) (X1M, X3M)	0.8~0.97
M4 (Inter-unit wiring terminal block) (X2M)	1.4~1.6

Recommendations when connecting the ground

When pulling the ground wire out, wire it so that it comes through the cut out section of the cup washer. (An improper ground connection may prevent a good ground from being achieved.)



Fixing field line connection (See figure 23)

- **1** Wiring between the units (Indoor - outdoor)
- **2** Fix to the indicated plastic brackets using field supplied clamping material.
- **3** Plastic bracket

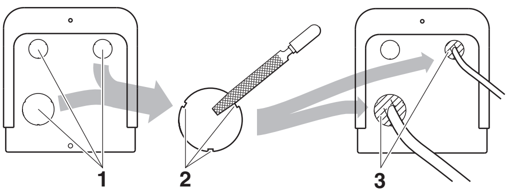
Picking power line and transmission line

- Be sure to let the power line and the transmission line pass through a conduit hole.
- Pick the power line from the upper hole on the left side plate, from the front position of the main unit (through the conduit hole of the wiring mounting plate) or from a knock out hole to be made in the unit's bottom plate. (See figure 19)

A Electric wiring diagram. Printed on the back of the electric box lid.
1 Cut off the shaded zones before use.
2 Through cover
3 Power supply wiring
(When wiring is routed out through the lateral panel.)
4 Set apart
5 Power supply wiring
(When wiring is routed through the front panel)
6 Transmission wire

Precautions when knocking out knockout holes

- To punch a knockout hole, hit on it with a hammer.
- After knocking out the holes, we recommend you paint the edges and areas around the edges using the repair paint to prevent rusting.
- When passing electrical wiring through the knockout holes, remove any burrs from the knockout holes and wrap the wiring with protective tape to prevent damage.



1 Knockout hole
2 Burr
3 If there are any possibilities that small animals enter the system through the knockout holes, plug the holes with packing materials (to be prepared on-site).

- Use a power wire pipe for the power wiring.
- Outside the unit, make sure the weak low voltage electric wiring (i.e. for the remote control, between units, etc.) and the high voltage electric wiring do not pass near each other, keeping them at least 50 mm apart. Proximity may cause electrical interference, malfunctions, and breakage.
- Be sure to connect the power wiring to the power wiring terminal block and secure it as described under "Field line connection" on page 13.
- Inter-unit wiring should be secured as described in "Field line connection" in chapter "8.5. Examples" on page 13.
  - Secure the wiring with the accessory clamps so that it does not touch the piping.
  - Make sure the wiring and the electric box lid do not stick up above the structure, and close the cover firmly.

Never connect 400 V to the terminal block of the interconnecting wiring. Doing so will break the entire system.

- After installing the interconnecting wires inside the unit, wrap them along with the on-site refrigerant pipes using finishing tape, as shown in figure 17.

1 Liquid pipe
2 Gas pipe
3 Interconnecting wiring
4 Insulator
5 Finishing tape

- See the paragraph "Fixing field line connection" on page 13.

- Check that wiring lines do not make contact with refrigerant piping.
- Firmly close the lid and arrange the electrical wires so as to prevent the lid or other parts from coming loose.
- When you don't use a wire conduit, be sure to protect the wires with vinyl tubes etc, to prevent the edge of the knock-out hole from cutting the wires.

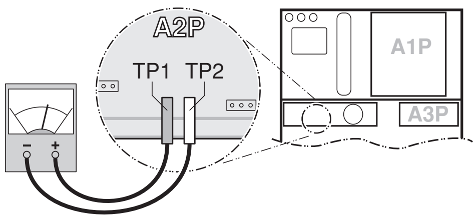
9. Before operation

9.1. Service precautions

WARNING: ELECTRIC SHOCK

Caution when performing service to inverter equipment

- Do not touch live parts for 10 minutes after the power supply is turned off because of high voltage risk.
- Additionally, measure the points as shown in the figure with a tester and confirm that the voltage of the capacitor in the main circuit is not higher than 50 V DC.



Then pull out the connector (X1A,X2A on A3P). Please pay attention not to come in contact with live parts.

- After the service is finished, re-connect the connector (X1A,X2A on A3P). Otherwise malfunction may occur.

Caution when obtaining access to terminals

- Before obtaining access to terminals in the switch box, all supply circuits must be disconnected.
- Be careful when taking off the cover. Touching live parts may cause electric shock.
- After servicing is finished, re-attach the cover. Otherwise malfunction may occur due to intrusion of water or other foreign materials.

NOTE

Play it safe!

For protection of the PCB, touch the switch box casing by hand in order to eliminate static electricity from your body before performing service.

9.2. Checks before initial start-up

NOTE Note that during the first running period of the unit, required power input may be higher than stated on the nameplate of the unit. This phenomenon originates from the compressor that needs elapse of a 50 hours run in period before reaching smooth operation and stable power consumption.

- Make sure that the circuit breaker on the power supply panel of the installation is switched off.
- Attach the power wire securely.
- Introducing power with a missing N-phase or with a mistaken N-phase will break the equipment.

After the installation, check the following before switching on the circuit breaker:

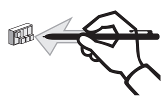
1. The position of the switches that require an initial setting
   Make sure that switches are set according to your application needs before turning the power supply on.
2. Power supply wiring and transmission wiring
   Use a designated power supply and transmission wiring and make sure that it has been carried out according to the instructions described in this manual, according to the wiring diagrams and according to local and national regulations.
3. Pipe sizes and pipe insulation
   Make sure that correct pipe sizes are installed and that the insulation work is properly executed.
4. Additional refrigerant charge
   The amount of refrigerant to be added to the unit should be written on the included "Added Refrigerant" plate and attached to the rear side of the front cover.
5. Insulation test of the main power circuit
   Using a megatester for 500 V, check that the insulation resistance of 2 MΩ or more is attained by applying a voltage of 500 V DC between power terminals and earth. Never use the megatester for the transmission wiring.
6. Installation date
   For reference, keep record of the installation date on the sticker on the rear of the upper front panel.

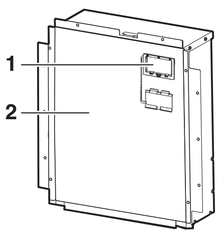
9.3. Field setting

If required, carry out field settings according to the following instructions. Refer to the service manual for more details.

Opening the switch box and handling the switches

When carrying out field settings, remove the inspection cover (1).
Operate the switches with an insulated stick (such as a ball-point pen) to avoid touching of live parts.

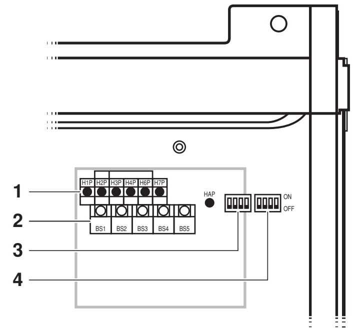




Make sure to re-attach the inspection cover (1) into the switch box cover (2) after the job is finished.

Location of the DIP switches, LEDs and buttons

1. LEDs H1P~H7P
2. Push button switches BS1~BS5
3. Dip switch 1 (DS1: 1~4)
4. Dip switch 2 (DS2: 1~4)



Led state

Throughout the manual the state of the LEDs is indicated as follows:

● OFF ☼ ON blinking

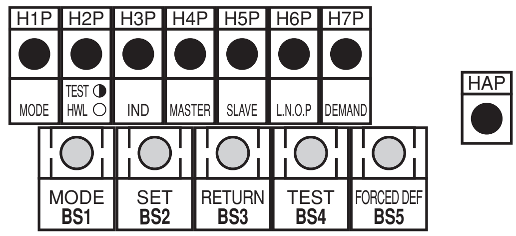
Setting the DIP switches



	What to set with DIP switches DS1 and DS2
DS1-3	LOW NOISE OPERATION LEVEL SETTING (**L.N.O.P**) (**OFF** = not installed = factory setting)
DS1-4	HIGH STATIC PRESSURE SETTING
DS2-1	AUTOMATIC LOW NOISE OPERATION AT NIGHT TIME
DS2-2	POWER CONSUMPTION LIMITATION SETTING (**DEMAND**)
DS1-1 **DS1-2** **DS2-3** **DS2-4**	NOT APPLICABLE DO NOT CHANGE THE FACTORY SETTING.

Setting the push button switch (BS1~5)

Function of the push button switch which is located on the outdoor unit PCB (A1P):



BS1 MODE	For changing the set mode
BS2 SET	For field setting
BS3 RETURN	For field setting
BS4 TEST	For test operation
BS5 FORCED DEF	For forced defrost or pump down

Setting the mode 2

The set mode can be changed by pressing the **BS1 MODE** button for 5 seconds. The setting mode will change to setting mode 2 and the H1P LED will be ON ☼.

NOTE If you get confused in the middle of the setting process, push the **BS1 MODE** button once. Then it returns to setting mode 2 (H1P LED is ON ☼).

Exiting mode 2

When all settings are finished and the operation did start according to the setting, push the **BS1 MODE** button once to exit the mode 2.

9.4. Test operation

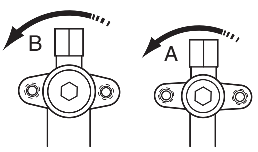
NOTE After turning on the power supply, the unit cannot be started until the H2P initialisation LED goes off (maximum 12 minutes).

- Check the stop valves
  Make sure to open the gas and liquid line stop valves.
- For details on test operation, refer to the indoor unit installation manual.

Pre-run checks

	Items to check
Electrical wiring Inter-unit wiring Ground wire	■ Is the wiring as mentioned on the wiring diagram? Make sure no wiring has been forgotten and that there are no missing phases or reverse phases. ■ Is the unit properly grounded? ■ Are any of the wiring attachment screws loose? ■ Is the insulation resistance at least 2 MΩ? - Use a 500 V mega-tester when measuring insulation. - Do not use a mega-tester for circuits which are not 230 V.
Refrigerant piping	■ Is the size of the piping appropriate? ■ Is the insulation material for the piping attached securely? Are both the liquid and gas pipes insulated? ■ Are the shut-off valves for both the liquid side and the gas side open?
Extra refrigerant	■ Did you write down the extra refrigerant and the refrigerant piping length?

1 Make sure the liquid and gas shut-off valves are open.



Opening direction

A Liquid side

B Gas side

Remove the cap and turn counterclockwise with a hex wrench until it stops

Be sure to close the frontside panel before operation, as not doing so can cause electric shock.

- The refrigerant pressure may not rise, even if the shut-off valve is opened after an air purge is performed using a vacuum pump.
  This is because the indoor unit refrigerant piping is closed off with electric valves inside. This will not create any problems during operation.

2 To protect the compressor, make sure to turn on the power supply 6 hours before starting operation.

Test operation from remote controller

1 Be sure to set it to cooling and press the operation switch.

2 Press the inspection/test-run switch on the remote control to put the machine into test-run mode.

Test operation from outdoor PCB BS4 test button

3 Make sure to set the remote controller to fan mode, press the **BS1 MODE** button first and then press the operation switch.

4 Press the **BS4 TEST** button for 5 seconds (or longer when the unit is at standstill). The test operation starts when the H2P LED blinks and the remote controller indicates 👁 (test operation).

5 Make sure the compressor is not starting and stopping during the test-run by listening. If it is starting and stopping, immediately stop the machine using the remote control, and check the refrigerant level, etc. There may be some sort of malfunction.

NOTE When you want to terminate the test operation, press the **BS3 RETURN** button. The unit will keep running for 30 seconds and then stops. During test operation it is impossible to stop the unit with the remote controller.

The test operation will automatically switch to cooling mode for 3 minutes. The test opereation will stop for 3 minutes and then switch to heating when heating mode was selected (only during first installation).

After the test operation (maximum 30 minutes), the unit automatically stops. Check the operation results by the outdoor unit LED indication.

Defect judgement

Judgement can be done by HAP, H1P on the PCB (A1P) if the power supply is turned on.

HAP (green)	H1P (orange)	Content
◐	●	Normal
☼	–	Outdoor PCB is defect (see NOTE 1)
●	–	Power supply abnormality or PCB is defect (see NOTE 2)
◐	☼	Protection equipment is active (see NOTE 3)

NOTE

1 Turn the power off for more than 5 seconds.
Switch the power back on. If this was realized, confirm your judgement.

2 Turn the power off for more than 5 seconds.
Disconnect the indoor-outdoor connection wire 3.
Switch the power back on for more than 10 seconds.
If the outdoor PCB HAP LED is blinking the indoor PCB is not working correct.

3 Indication of a possible negative phase.

The abnormality detection continuously indicates the past abnormal history untill power supply is shut off.

- After the test operation is finished, check the indoor units via the remote controller.
- The LED indication changes during this operation, but that is not abnormal.
- Please attach the front plate of the oudoor unit in order to prevent incorrect judgement during operation.

Setting mode 2

The H1P LED is on.

Setting procedure

1 Push the **BS2 SET** button according to the required function (A~E). The LED indication that matches the required function is shown below in the field marked ▒▒:

Possible functions

- **A** additional refrigerant charging operation.
- **B** refrigerant recovery operation/vacuuming operation.
- **C** low noise operation level setting (**L.N.O.P**) (external).
- **D** automatic low noise operation setting at nighttime.
- **E** power consumption limitation setting (**DEMAND**) (external).

	H1P	H2P	H3P	H4P	H5P	H6P	H7P
A	☼	●	●	●	●	●	●
B	☼	●	●	●	●	●	☼
C	☼	●	●	●	●	☼	●
D	☼	●	●	●	●	☼	☼
E	☼	●	●	●	☼	☼	☼

2 When the **BS3 RETURN** button is pushed, the current setting is defined.

3 Push the **BS2 SET** button according to the required setting possibility as shown below in the field marked ▒▒.

3.1 Possible settings for function A and B are **ON** (ON) or **OFF** (OFF).

	H1P	H2P	H3P	H4P	H5P	H6P	H7P
ON	☼	●	●	●	●	◐	●
OFF (1)	☼	●	●	●	●	●	◐

(1) This setting = factory setting

3.2 Possible settings for function C, D and E

For function C (**L.N.O.P**) only: the noise of level 3 < level 2 < level 1 (◢ **1**).

For function D only: automatic low noise at nighttime level 3 < level 2 < level 1 (◢ **1**).

For function E (**DEMAND**) only: the power consumption of level 1 < level 2 < level 3 (◢ **3**).

	H1P	H2P	H3P	H4P	H5P	H6P	H7P
◢ 1	☼	●	●	●	●	●	◐
◢ 2 (1)	☼	●	●	●	●	◐	●
◢ 3	☼	●	●	●	◐	●	●

(1) This setting = factory setting

4 Push the **BS3 RETURN** button and the setting is defined.

5 When the **BS3 RETURN** button is pushed again, the operation starts according to the setting.

Refer to the service manual for more details and for other settings.

10. Service mode operation

Vacuuming method

At the first installation, this vacuuming is not required. It is required only for repair purposes.

1 When the unit is at standstill and under the setting mode 2, set the required function B (refrigerant recovery operation/ vacuuming operation) to **ON** (ON).
   - After this is set, do not reset the setting mode 2 until the vacuuming is finished.
   - The H1P LED is ON and the remote controller indicates (test operation) and the operation will be prohibited.

2 Evacuate the system with a vacuum pump.

3 Press the **BS1 MODE** button and reset the setting mode 2.

Refrigerant recovery operation method

by a refrigerant reclaimer

1 When the unit is at standstill and under the setting mode 2, set the required function B (refrigerant recovery operation/ vacuuming operation) to **ON** (ON).
   - The indoor unit and the outdoor unit expansion valves will fully open and some solenoid valves will be turned on.
   - The H1P LED is ON and the remote controller indicates (test operation) and the operation will be prohibited.

2 Cut off the power supply to the indoor units that have separate power supply and the outdoor unit with the circuit breaker. After the power supply to one side is cut off, cut off the power supply to the other side within 10 minutes. Otherwise, the communication between the indoor and outdoor unit may become abnormal and the expansion valves will be completely closed again.

3 Recover the refrigerant by a refrigerant reclaimer. For details, see the operation manual delivered with the refrigerant reclaimer.

11. Caution for refrigerant leaks

(Points to note in connection with refrigerant leaks.)

When a unit is installed in a small room, it is necessary to take measures so that the leaked refrigerant amount does not exceed the limit even if it leaks. As for the measures to prevent the leak from not exceeding the limit, please consult with your distributor.

If the leaked amount exceeds the limit, it may cause an oxygen deficiency accident.

Introduction

The installer and system specialist shall secure safety against leakage according to local regulations or standards. The following standards may be applicable if local regulations are not available.

The air conditioning systems, uses R410A as refrigerant. R410A itself is an entirely safe non-toxic, non-combustible refrigerant. Nevertheless care must be taken to ensure that air conditioning facilities are installed in a room which is sufficiently large. This assures that the maximum concentration level of refrigerant gas is not exceeded, in the unlikely event of major leak in the system and this in accordance to the local applicable regulations and standards.

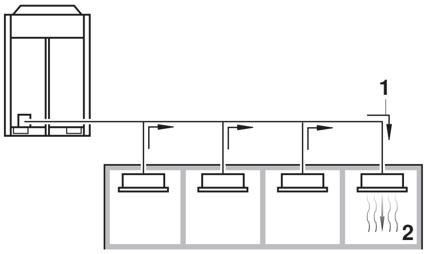
Maximum concentration level

The maximum charge of refrigerant and the calculation of the maximum concentration of refrigerant is directly related to the humanly occupied space in to which it could leak.

The unit of measurement of the concentration is kg/m^3 (the weight in kg of the refrigerant gas in 1 m^3 volume of the occupied space).

Compliance to the local applicable regulations and standards for the maximum allowable concentration level is required.

According to the appropriate European Standard, the maximum allowed concentration level of refrigerant to a humanly space for R410A is limited to 0.44 kg/m^3.



1 direction of the refrigerant flow

2 room where refrigerant leak has occurred (outflow of all the refrigerant from the system)

Pay special attention to places, such as a basements, etc. where refrigerant can stay, since refrigerant is heavier than air.

Procedure for checking maximum concentration

Check the maximum concentration level in accordance with steps 1 to 4 below and take whatever action is necessary to comply.

1 Calculate the amount of refrigerant (kg) charged to each system separately.

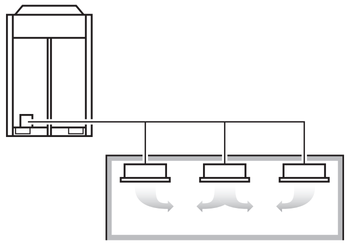
amount of refrigerant in a single unit system (amount of refrigerant with which the system is charged before leaving the factory) + additional charging amount (amount of refrigerant added locally in accordance with the length or diameter of the refrigerant piping) = total amount of refrigerant (kg) in the system

NOTE Where a single refrigerant facility is divided into 2 entirely independent refrigerant systems, use the amount of refrigerant with which each separate system is charged.

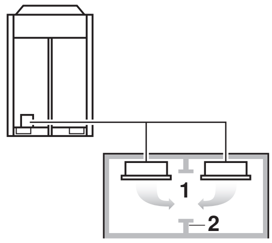
2 Calculate the smallest room volume (m^3)

In a case such as the following, calculate the volume of (A), (B) as a single room or as the smallest room.

A. Where there are no smaller room divisions



B. Where there is a room division but there is an opening between the rooms sufficiently large to permit a free flow of air back and forth.



1 opening between rooms

2 partition

(Where there is an opening without a door or where there are openings above and below the door which are each equivalent in size to 0.15% or more of the floor area.)

3 Calculating the refrigerant density using the results of the calculations in steps 1 and 2 above.

$$\frac{\text{total volume of refrigerant in the refrigerant system}}{\text{size (m}^3\text{) of smallest room in which there is an indoor unit installed}} \leq \text{maximum concentration level (kg/m}^3\text{)}$$

If the result of the above calculation exceeds the maximum concentration level then make similar calculations for the second then third smallest room and so until the result falls short of the maximum concentration.

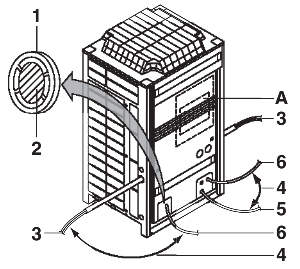
4 Dealing with the situations where the result exceeds the maximum concentration level.

Where the installation of a facility results in a concentration in excess of the maximum concentration level then it will be necessary to revise the system.

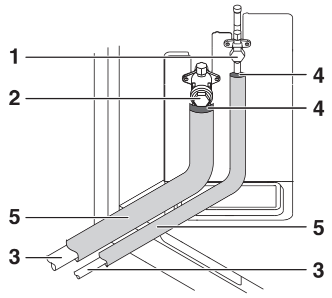
5 Please consult your supplier.

12. Disposal requirements

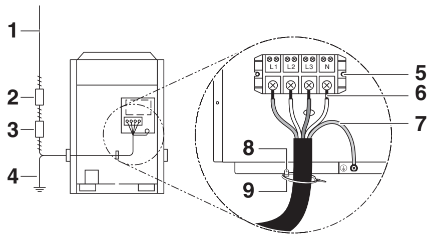
Dismantling of the unit, treatment of the refrigerant, of oil and of other parts must be done in accordance with relevant local and national legislation.



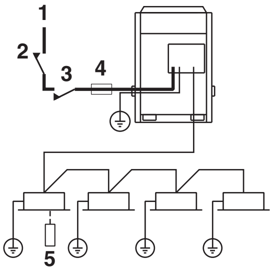
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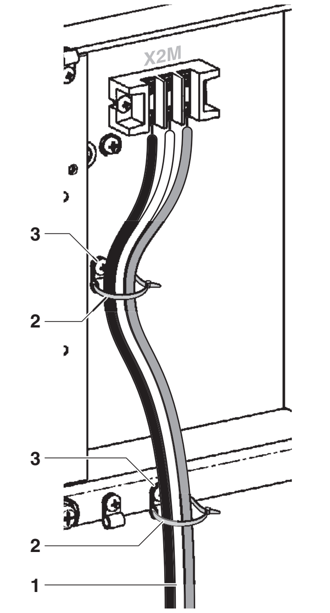
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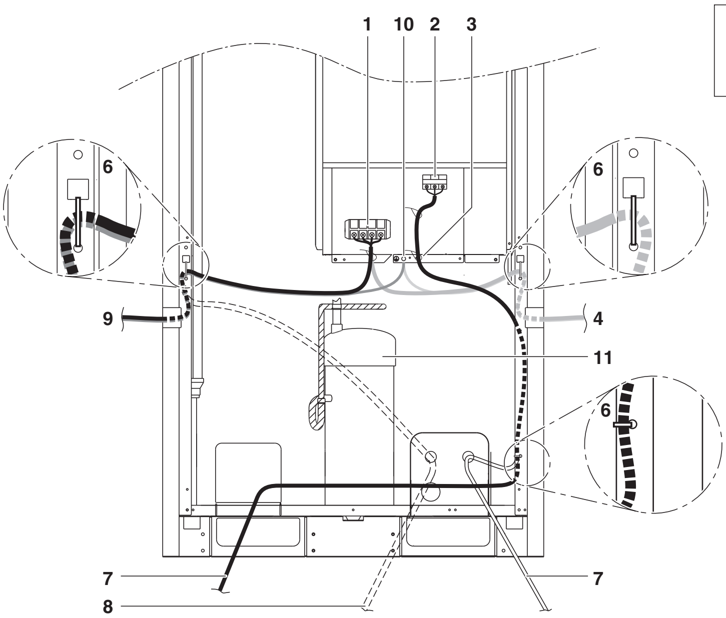
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